2671

Canadian Environmental Law Association
L'Association canadienne du droit de l'environnement

517 College Street, Suite 401, Toronto, Ontario M6G 4A2
Telephone (416) 960-2284
Fax (416) 960-9392

The Environmental Implications of Trade Agreements

Prepared by the
Canadian Environmental Law Association
for the
Ontario Ministry of Environment and Energy

ISBN 0-7778-1705-5

The Environmental Implications of Trade Agreements

AUGUST 1993

Cette publication technique
n'est disponible qu'en anglais.

Copyright: Queen's Printer for Ontario, 1993
This publication may be reproduced for non-commercial purposes
with appropriate attribution.

PIBS 2671

ACKNOWLEDGEMENT AND DISCLAIMER

This report was prepared for the Ontario Ministry of Environment and Energy as part of a Ministry funded project. The views and opinions expressed in this report are those of the authors and do not necessarily reflect the views and policies of the Ministry of Environment and Energy, nor does the mention of trade names or commercial products constitute endorsement or recommendation for use. The validity of the model and the input data provided in this report are the responsibility of the authors.

(c) 1993 Her Majesty the Queen in Right of Ontario as represented by the Minister of Environment and Energy

The Environmental Implications of Trade Agreements

Table of Contents

Abstract i

Chapter 1 Introduction 1

Chapter 2 Globalization, Trade Agreements and Sustainability
by Bruce Campbell 7

Chapter 3 The Environment and International Trade Agreements: An Overview
by Michelle Swenarchuk 65

Chapter 4 The Environmental Implications of NAFTA: A Legal Analysis
by Michelle Swenarchuk 101

Chapter 5 Environmental Regulation and Natural Resource Implications of the Draft Final Act of the GATT Uruguay Round Multilateral Trade Negotiations
by Zen Makuch 133

Chapter 6 The Use of US Trade Remedy Laws: Impacts on Ontario Environmental Protection Strategies
by Scott Sinclair 167

Chapter 7 The Use of US Trade Remedy Laws: Case Study of the Softwood Lumber Disputes
by Scott Sinclair 195

Chapter 8 Environmental Implications of the NAFTA: An Inter-Industry Analysis
by Atif Kubursi, Andrew Muller, James Williams 222

Chapter 9 Conclusion 284

References 291

Appendices

A. International Bodies Named as Standard Setters in NAFTA: A Selection 294

B. Selected Plant Closure and Production Relocation: January 1989-June 1992, Ontario 333

C. Status of US Manufacturing and Resource Industries 341

D. General Agreement on Tariffs and Trade, Article XX 350

E. North American Free Trade Agreement, Article 712 352

Abstract

1. GLOBALIZATION, TRADE AGREEMENTS AND SUSTAINABILITY

The paper begins by conceptualizing elements of sustainable development. It then analyzes key features of the process of globalization - production, trade, finance - and its environmental, social and economic effects, and concludes that the process has moved a long way down a path which is unsustainable.

Provisions of NAFTA entrench and reinforce these trends. They directly and indirectly constrain policies to enhance environmental protection and resource conservation. Constrained policies include for example: domestic processing of resources, policies to promote green industries, price and tax policies to internalize environmental costs, policies to discourage depletion of polluting nonrenewable energy sources etc. Intellectual property provisions in NAFTA, particularly those pertaining to the patenting of life forms and products of broad social value, contradict basic principles of sustainable development.

The unenforceable pollution haven clause in the Agreement is contradicted by many provisions which enhance the mobility of capital and diminish regulatory capacity, facilitating the movement of production to areas of lower environmental and social standards. A potential consequence of this lowest common denominator competition is the capping and lowering of standards. The provisions also indirectly weaken the fiscal capacity of governments and therewith limit the financial resources available to meet environmental priorities.

2. THE ENVIRONMENT AND INTERNATIONAL TRADE AGREEMENTS: AN OVERVIEW

The legal overview traces the development of international trade agreements from their origins in GATT to the changes seen in the Canada-US FTA, the NAFTA, and the proposed Uruguay Round of GATT. The paper reviews the treatment of environmental issues in the agreements and trade panel decisions, and summarizes the current issues in environment and trade. The author argues that the trade agreements pose significant barriers to resource conservation measures and strong environmental standards, at the same time that the Rio Summit and citizens world-wide are seeking accelerated environmental protection.

3. THE ENVIRONMENTAL IMPLICATIONS OF THE NORTH AMERICAN FREE TRADE AGREEMENT: A LEGAL ANALYSIS

The proposed North American Free Trade Agreement is, from the Canadian perspective, a re-negotiation of the Free Trade Agreement, with the significant addition of a chapter on intellectual property.

It repeats the environmental implications of the FTA regarding resources, but adds new dimensions of impacts on standard-setting, with a comprehensive program of international harmonization of a wide range of environmental (and non-environmental) standards. The rights of national and provincial governments to maintain standards other than international ones are constrained by the criteria for standard-setting used in Chapters 7 (Sanitary and Phytosanitary Standards) and 9 (Technical Barriers to Trade) of the agreement. Specifically, requirements that standards meet the tests of territorial limitations, scientific principles, risk assessment, "necessity", "least trade restrictive", and avoidance of disguised barriers to trade all have import for future standard-setting. The notification requirements and opportunities for NAFTA parties to become involved in consultations regarding standards will have implications for provincial government resources.

The agreement discourages the downgrading of environmental standards in order to attract investment, but does not prohibit it. NAFTA provides a limited protection for trade-related actions taken in accordance with three international environmental agreements, the Convention on Trade in Endangered Species, the Montreal Protocol on Ozone-Depleting Substances, and the Basel Convention on the Control of Transboundary Movement of Hazardous Wastes and Their Disposal. Trade dispute panels may consult panels of environmental experts, but their processes will be secret. Provincial governments and the public will not have access to them.

4. ENVIRONMENTAL REGULATION AND NATURAL RESOURCE IMPLICATIONS OF THE DRAFT FINAL ACT OF THE GATT URUGUAY ROUND MULTILATERAL TRADE NEGOTIATIONS

This chapter provides a critical analysis of the environmental protection and natural resource implications of the draft Final Act of the GATT Uruguay Round of multilateral trade negotiations. It begins by identifying seven potential sources of concern for environmental regulators. They include the following:

1) Diminution of national sovereignty over natural resource management policy;
2) Establishment of a Multilateral Trade Organisation (MTO) with comprehensive GATT enforcement powers;
3) Creation of "automatic permanent adoption" and "unanimous consent" provisions concerning dispute resolution processes;
4) Establishment of international standard setting exercises overseen by democratically unaccountable international bureaucracies;
5) The pre-emption of sub-national (provincial) government environmental regulations;
6) Implementation of the "extraterritoriality" principle which restricts environmental regulations that reach beyond national borders; and,
7) International codification of domestic policies for agriculture, technical barriers to trade, plant health measures, subsidies, investment services, patents and copyrights.

The paper goes on to analyze these trends in the context of those provisions of the Final Act concerning sanitary and phytosanitary measures, technical barriers to trade, the MTO, the dispute resolution process and subsidies. Its underlying theme is that the Uruguay Round text poses significant challenges to present and future provincial environmental regulations and natural resource management strategies.

5. THE USE OF U.S. TRADE REMEDY LAWS: IMPACTS ON ONTARIO ENVIRONMENTAL PROTECTION STRATEGIES

Environmental economic instruments (EEIs) designed to abate pollution, improve environmental quality, and encourage environmentally sustainable economic development are important for environmental protection. Unfortunately, EEIs may be entangled in trade remedy cases. Certain U.S. trade actions have negatively impacted Canadian environmental programs in a manner defensible under U.S. trade law. Periodic trade remedy cases involving environmental programs are unavoidable. To date, no international trade agreement, including the Canada-U.S. FTA, NAFTA, and the GATT, protects EEIs from challenge as non-tariff trade barriers. By contrast, current trade rules permit "indirect subsidies" resulting from non-existent or poorly-enforced environmental standards. This anomaly creates a bias in favour of polluters and against policy incentives to protect the environment, pointing to a serious imbalance in the current international trade regime. Until international trade rules are reformed to incorporate environmental protection, Ontario must adapt to these constraints without diminishing its commitment to environmentally sustainable economic development. Effective environmental programs should be maintained and defended when challenged as non-tariff trade barriers. Where the economic costs of U.S. retaliation are very high, bilateral negotiation and domestic program adjustment may be necessary. Abandoning effective environmental programs is an unacceptable limitation.

6. THE USE OF U.S. TRADE REMEDY LAWS: CASE STUDY OF THE SOFTWOOD LUMBER DISPUTES

Softwood lumber is one of Canada's largest exports to the U.S. U.S. producers have launched trade actions against softwood lumber three times in the last ten years. In each case the rules have changed, emphasising the unilateralist trend in U.S. trade policy. Trade friction results in persistent pressure for Canada to shift from its predominantly public resource ownership and management system toward the U.S.'s mainly private one. The lumber case goes to the heart of concerns about the impact of U.S. trade politics on Canadian sovereignty. A particularly disturbing aspect of the 1992 Softwood Lumber countervailing duty case was the U.S. Department of Commerce (DOC) decision that B.C.'s log export regulations constituted a countervailable subsidy, despite the fact that these regulations are explicitly protected in the Canada-U.S. FTA. The 1992 DOC ruling considerably broadens the U.S. definition of subsidy and casts a shadow over similar resource conservation measures in Canada, the U.S. and other countries. The 1992 Softwood Lumber decision calls into question the value of the FTA in curbing U.S. trade remedy actions and points to an underlying conflict between free trade principles and resource conservation measures.

7. ENVIRONMENTAL IMPLICATIONS OF THE NAFTA: AN INTER-INDUSTRY ANALYSIS

A free trade agreement can affect the environment by changing the overall scale of economic activity, and by changing technology. Input output analysis can be used to calculate how these changes affect the use of raw materials and the discharge of wastes. Predicting the effect of trade agreements on the level and composition of economic activity is difficult and contentious. It is more useful to calculate the environmental impacts of alternative scenarios, that is, alternative hypotheses concerning the output effects of overall and sectoral economic growth, with and without trade liberalization.

The alternative scenarios considered in this study show increases of up to five percent or more in atmospheric emissions, water use, waste generation and energy use, with a more rapid rate of increase in energy use and atmospheric emissions related to the implementation of NAFTA.

8. CONCLUSIONS

This study represents a comprehensive compilation of new information regarding the interactions of trade and environment policy. It addresses the environmental effects of increasing economic globalization, with specific references to the Canada-U.S. Free Trade Agreement (FTA), NAFTA, and the proposed Uruguay Round text of the GATT. Detailed analyses of the long-standing softwood lumber trade dispute between the U.S. and Canada, and on the use of U.S. trade law in relation to environmental policy, are included. The study concludes with an econometric assessment of NAFTA's possible environmental impacts.

The overall conclusion of the study, based principally on legal and policy-focused analysis, is that trade liberalization in general, and specific trade agreements in particular, have a number of specific negative consequences for the environment and for environmental policy. The authors urge Ontario policy-makers to assess the options which are open to the province to resist and counter these negative impacts on environmental policy. They also urge Ontario to take positive steps to protect the province's natural environment and resources in the face of trade pressures.

Chapter 1

Introduction

by Michelle Swenarchuk

In the past five years, a debate has developed world-wide on impacts of trade on the environment. This debate was given particular impetus by the United Nations Conference on Environment and Development (UNCED). During that same time period, the Canada-U.S. Free Trade Agreement (FTA) was implemented, and included a variety of provisions affecting the environment that are new to trade agreements. In addition, an international jurisprudence of cases has developed in which trade disputes have involved issues with environmental impact, both under the General Agreement on Tariffs and Trade (GATT) and the Free Trade Agreement. Additional cases have been heard concerned with issues of international harmonization of standards.

In the past year, due to the negotiation of the North American Free Trade Agreement (NAFTA), the debate has intensified in North America. The NAFTA includes a number of provisions concerned with environmental questions. While in the United States, debate on NAFTA has turned largely on the inclusion of Mexico in the free trade region, and related environmental and labour issues, in Canada, the negotiation of NAFTA has rekindled controversies first raised by the adoption of the Canada-U.S. Free Trade Agreement.

In this study, the authors attempt to identify a number of the direct and indirect impacts of the free trade regimes on the Canadian environment. This is done by analyzing both legal and economic changes flowing from globalization of economic activity and continuing international trade negotiations. A fundamental premise of the argument is that all economic activity, including trade, has important environmental impacts, and that the trade agreements are, therefore, also agreements about the future of the Canadian environment.

It is a further premise of the study that the Canadian environment will be affected both by patterns of economic activity promoted by trade agreements, and by changes in government regulatory authority related to the agreements. We have, therefore, focused on what we consider to be key issues in these two interconnected subject areas.

An overview of economic trends promoted by free trade is provided in chapter 2 of the report, "Globalization, Trade Agreements and Sustainability". The author begins by conceptualizing elements of sustainable development, and then analyzes key features of the process of globalization -- production, trade, finance, and their environmental, social, and economic impacts. The author argues that the globalization process is not promoting environmental sustainability, and that various provisions of NAFTA reinforce and entrench unsustainable economic trends.

The chapter builds the case using survey, case study, and statistical evidence, that the deregulated trade and investment climate entrenched and enhanced by the FTA and NAFTA, is causing a diversion of investment away from Canada to lower standards jurisdictions on the continent, and that this is putting pressure on governments and workers to lower environmental and other standards, wages, taxes etc. to stem the flow. The overall environmental consequences of these investment shifts are adverse.

Chapter 3 of the report provides a legal overview of the development of international trade agreements from their origins in GATT to the changes seen in the Canada-U.S. Free Trade Agreement, the NAFTA, and the proposed Uruguay Round of GATT. It discusses the development of the role of GATT as both a trade agreement and an international institution. The chapter reviews the treatment of environmental issues in the agreements and trade panel decisions, and summarizes the current issues in environment and trade. The author argues that the trade agreements pose significant barriers to resource conservation measures and strong environmental standards, at the same time that the Rio Summit and citizens worldwide are seeking accelerated environmental protection. The paper summarizes some of the efforts of trade law reform in relation to environmental issues currently being conducted at the OECD and GATT.

In Chapter 4, the author turns from the overview of trade and environment issues to an analysis of the specific terms of the proposed NAFTA likely to have environmental impacts. The argument is made that from the Canadian perspective, the proposed North American Free Trade Agreement is a renegotiation of the Canada-U.S. Free Trade Agreement, with the significant addition of a chapter on Intellectual Property. NAFTA repeats the environmental implications of the Free Trade Agreement regarding resources, but adds new dimensions of impacts on standard-setting, with a comprehensive program of international harmonization of a wide range of environmental and non-environmental standards. The rights of national and provincial governments to maintain standards other than international ones are constrained by the criteria for standard setting prescribed in chapters 7 and 9 of the agreement. The chapter also examines the NAFTA provisions regarding resource management, international environmental agreements, and dispute settlement.

While North Americans are focused on the ongoing issue of the development of NAFTA, negotiations to significantly alter the GATT are continuing in the Uruguay Round Multilateral Trade Negotiations. In the proposed changes to GATT, issued in the Draft Final Act of the GATT Uruguay Round Multilateral Trade Negotiations (the Dunkel Draft), provisions significant to environmental protection policies are included. These proposals are analyzed in chapter 5 of this report. The author argues that the Uruguay Round text poses significant challenges to present and future provincial environmental regulations and natural resource management strategies.

The United States is Canada's largest trading partner, and the Canadian economy is significantly integrated with that of the United States. The Canada-U.S. Free Trade Agreement was described by its Canadian promoters as a means to secure access to the United States market for Canadian products. However, despite the Free Trade Agreement, Canadian industries and regulators have frequently been affected by the use of American trade remedy laws by successive U.S. administrations. Since the relationship of Canada to the U.S. is a key factor influencing both economic opportunities and policy development in Canada, chapters 6 and 7 of this report examine a number of issues of Canadian trade and policy affected by U.S. trade remedy laws.

First, in chapter 6, the author examines potential impacts on Ontario environmental protection strategies flowing from U.S. trade actions. He argues that certain U.S. trade actions have negatively impacted Canadian environmental programs in a manner defensible under U.S. trade law, and he analyzes those examples. He argues further that no international trade agreement protects environmental economic instruments from challenge as non-tariff barriers to trade, and that unless international trade rules are reformed, Ontario will need to adapt to these constraints without diminishing its commitment to environmentally sustainable development. He discusses options available to the Ontario government in this context.

In chapter 7, the important Canada/U.S. trade dispute regarding softwood lumber is analyzed in depth. Since forest management policies have obvious environmental impacts, this dispute provides an important example of how trade actions may affect the Canadian environment and environmental regulatory power. U.S. lumber producers have launched trade actions against softwood lumber three times in the last 10 years. The author argues that in each case the rules applied by U.S. regulators have changed, reflecting a unilateralist trend in U.S. trade policy. The author further argues that trade friction results in persistent pressure for Canada to shift from its predominantly public resource ownership and management system towards the U.S.'s mainly private one, and that the lumber case goes to the heart of concerns about the impact of U.S. trade policies on Canadian sovereignty. With regard to the 1993 softwood lumber decision, the author argues that it calls into question the value of the Canada-U.S. Free Trade Agreement in curbing trade remedy actions and points to an underlying conflict between free trade principles and resource conservation measures.

An econometric analysis of environment and trade issues is contained in chapter 8. The authors consider that a free trade agreement can affect the environment by changing the overall scale of economic activity, by changing the composition of economic activity, and by changing technology. Input-output analysis can be used to calculate how these changes affect the use of raw materials and discharge of waste. Given the difficulty of predicting the effect of trade agreements on the level and composition of economic activity, the authors argue that it is more useful to calculate the environmental impacts of possible alternative scenarios, that is, alternative hypotheses concerning the output effect of free trade. The authors study these impacts on the assumption that the ratio of environmental inputs to commodity outputs is the same before and after freer trade. They examine three alternative possible growth scenarios. In the first, Zero Provincial Growth, aggregate production in Ontario does not change but the annual pattern of contraction and expansion of industries is the same as in the first two years of the U.S.-Canada Free Trade Agreement. In the second scenario (Treasury Forecast) the authors use the annual average of the Ontario Treasury's forecast rate of growth in demand for the major components of final demand. In the third scenario they use others' work to adjust the Treasury Board forecast to reflect the possible effects of an early implementation of NAFTA.

The results indicate that if the Province of Ontario continues to experience the slow growth of recent years, the environmental impacts of industry will be essentially unchanged. Alternatively, growth rates consistent with the Treasury and NAFTA scenarios lead to increases of more than 4.5 per cent per annum in atmospheric emissions, water use, waste regeneration, and energy use. The NAFTA scenario predicts a more rapid rate of increase in energy use and atmospheric emissions, probably because of the increased output assumed for the primary metals and refined petroleum product industries.

Chapter 9 summarizes the overall conclusions of the study.

These chapters are supplemented by appendices which provide additional information. Appendix A provides details about some of the international bodies named in NAFTA to set international standards pertaining to the environment. These organizations are mentioned in Chapter 4 of the report.

Appendix B is a list of industrial plants identified in a survey by the Canadian Centre for Policy Alternatives as having been closed in Canada following implementation of the Canada-US Free Trade Agreement, from January 1989 to August 1992, together with the locations mostly in the U.S. and Mexico, to which the plants have been moved. This list is referred to in Chapter 2.

Appendix C provides an assessment of the degree of risk of U.S. trade actions against a number of Canadian industrial sectors. This issue is mentioned in chapters 6 and 8.

Appendix D consists of the complete wording of GATT Article XX, the legal provision underlying much of the international trade law pertaining to environmental protection. It is referred to in chapters 3, 4 and 5.

Appendix E provides the wording of NAFTA Article 712 which specifies in detail what criteria are to be utilized in the establishment of Sanitary and Phytosanitary Standards, including some environmental standards, under NAFTA. This provision is discussed in chapter 4.

Chapter 2

Globalization, Trade Agreements and Sustainability

by Bruce Campbell
Canadian Centre for Policy Alternatives

1. INTRODUCTION

The purpose of this chapter is firstly, to present an overview of developments in the global economy to serve as context for understanding and evaluating "free trade" agreements, specifically the Canada-US Free Trade Agreement (FTA) and its successor, the North American Free Trade Agreement (NAFTA).

Secondly, the chapter will assess how the FTA/NAFTA affects the ability of the Ontario and Canadian governments to promote environmentally sustainable development. Specifically, this includes how it affects standards-setting policies, as well as policies to internalize environmental costs; policies of resource management and conservation; industrial policies such as domestic resource processing incentives/requirements, policies to promote green industries and technology transfer; and the overall fiscal capacity of governments.

Thirdly, to the extent that global economic trends have moved along an increasingly unsustainable development path, the chapter will assess whether, or to what extent, the FTA/NAFTA reinforces or mitigates these trends: resource depletion and pollution, standards lowering competition; distorted growth and increasing income inequality.

The preamble of the final NAFTA text signed by government leaders from Canada, Mexico and the

United States on December 17 1992 contains the laudable goal to "promote sustainable development; and strengthen the development and enforcement of environmental laws and regulations...".

The World Commission on Environment and Development (the Brundtland Commission) defined sustainable development as development "that meets the needs of the present without compromising the ability of future generations to meet their own needs".[1] The World Conservation Union, Caring for the Earth, defines sustainable development as "improving the quality of human life while living within the carrying capacity of supporting eco-systems."[2] This concept is elaborated in the United Nations Human Development Report as "a process in which economic, fiscal, trade, energy, agricultural and industrial policies are all designed to bring about development that is economically, socially and ecologically sustainable"[3].

This means development that does not incur: unsustainable economic debts (that is, borrowing for consumption purposes rather than for enhancing the stock of productive capacity); unsustainable social "debts" (that is, degrading the existing "human capital stock" by not investing in the health and education and material well-being of the population, by increasing levels of income inequality, unemployment, and poverty); and unsustainable environmental debts (that is, depleting the stock of natural capital through environmental degradation and resource exhaustion). Although this chapter focuses on the environmental dimension of sustainability, the three are interrelated and inseparable.

The starting point of this chapter is that trade should be seen as a tool of sustainable development, not an end in itself. Trade may bring gains, but trade does not necessarily bring gains. Trade may bring an increase in growth and with it an increase in financial resources which may be used for environment protection and the reduction of pollution. But neither of these effects follows automatically. This is true whether we are looking from the perspective of a given nation or region, or whether we are looking from the perspective of groups within nations or regions. The converse may also be true. That is, trade may reduce growth or contribute to recession. Or trade-induced growth may result in a distribution of financial resources that does not contribute to increased environmental protection and pollution reduction, or might not otherwise be sustainable by the criteria outlined above. Trade can be environmentally benign, or it can be an engine of environmental degradation and resource depletion. Since it cannot be assumed that trade is automatically good, it follows that neither is more trade necessarily better. Nor does it follow that less trade is necessarily bad.

---

[1] World Commission on Environment and Development, Our Common Future, Oxford University Press, 1987, pp. 4-8.

[2] World Conservation Union, United Nations Environment Program (UNEP) and World Wide Fund for Nature (WWF), Gland, Switzerland, 1991, p. 10.

[3] United Nations, Development Program, Human Development Report, 1992, p.3.

In their book For the Common Good, World Bank economist Herman Daly and John Cobb conceptualize sustainable development in terms of two different kinds of capital, humanly created capital (equipment and machines, etc.) and natural capital (forests, oceans, etc.) "Natural capital is the non-produced (and fixed) means of producing a flow of resources and services."[4] Development is sustainable only insofar as it lives off the "interest" flow generated by stocks of natural capital.

What does this mean in practical terms, Daly elaborates. For a renewable resource it means use that is no greater than the rate of regeneration. For a non-renewable resource it means use that is no greater than the rate at which a renewable resource is substituted for it (e.g. solar energy for fossil energy). For a pollutant it means a rate of emission that is no greater than the rate at which it can be recycled, absorbed or rendered harmless by the environment.[5] To the extent that "trade liberalization tends to expand the scale of economic activity and this increases the throughput of matter and energy"[6], it has cut into and depleted natural capital stocks worldwide.

The point of this discussion is not to argue for either autarchy and isolation, or for unrestricted trade. Policies can overemphasize trade or they can underemphasize trade. It is rather to suggest that the response to the question of trade and sustainability is that it depends. It depends on the particular good or service and the resource and pollution intensity which it embodies. It depends on societal priorities. For example, polling data reveal that most Canadians do not want to see large-scale exports of water. Nor are people supportive of unregulated trade in hazardous waste products. Canadian policy currently limits trade in dairy and poultry products. Health care services in Canada are for the most part provided by the public sector and therefore not open to trade. The relationship between trade and sustainability also depends on the bargaining power of the countries involved and their ability to manipulate the results to suit themselves and their transnational corporations.

---

[4] H. Daly and J. Cobb, For the Common Good, Beacon Press, 1989, p. 72.

[5] Herman Daly, "Toward Some Operational Principles of Sustainable Development", Ecological Economics 2, 1990, pp. 1-6.

[6] H. Daly and R. Goodland, An Ecological-Economic Assessment of Deregulation of International Commerce under GATT, World Bank, Environmental Dept. 1992 (mimeo), p. 8.

The important question is: under what conditions do trade or other international economic relationships move us in a direction that is sustainable? And specifically in this chapter, does FTA/NAFTA fulfil these conditions?

Framing the discussion in terms of "trade and environment" fails to capture the totality or the complexity of international economic relations and their effects. To this end, this chapter organizes the analysis of changes in the world economy around the concept of globalization, therefore reframing the issue as "globalization and environment." However, acknowledging that the former dichotomy has already achieved widespread usage, the reader is asked to understand trade in this broader sense.

The view that predominates among neo-classical economists, business, and among the political leadership that negotiated the North American Free Trade Agreement is that "free trade" is self-evidently good. It is self-evidently good for the environment because it increases growth and therewith the financial resources available to address environmental problems down the road. This has been referred to as the environmental deficit financing approach. This is the basic message of a widely cited environmental impact analysis of NAFTA[7]. Ironically, this is the same argument used by free trade advocates during the 1988 debate in Canada to conclude that the FTA would strengthen social programs. In light of the damage inflicted in the last four years on Canada's social safety net, this same argument applied to the environment is less than convincing.[8]

---

[7] G. Grossman and A. Krueger, "Environment Impacts of a North American Free Trade Agreement". Paper Presented at a Conference Sponsored by the Mexican Trade Ministry SECOFI, November 1991.

Free trade is mainly about the deregulation of trade and investment activity. It is about the removal of government controls or regulations on economic activity that directly or indirectly affect trade. For free trade theorists any derogation from the ideal of total free or unregulated trade is sub-optimal and, even if necessary under real world conditions, is a second-best solution. Regulations or controls are seen as barriers to trade which should be removed. To resist the removal of controls is to be labelled protectionist, on the side of narrow self-interest and inefficiency.

The provisions which deregulate capital, as we shall examine later, are at the core of the FTA/NAFTA. Their social, economic and environmental impacts on Canada far outweigh, for example, the tariff elimination provisions. A trade agreement whose main function was to eliminate the 4% average US tariff on dutiable imports from Canada would never have generated the public controversy that the FTA has. Yet the analysis by free trade advocates almost never emphasizes these features of the agreement. This is particularly interesting because the neoclassical theoretical case for the benefits of free trade, as well as the gains projected by economic "computerized general equilibrium" models (CGE), is based on several critical assumptions, one of which is that capital is largely immobile across national borders. One of the ironies in this debate is that many of the proponents of a "borderless world" are basing their case on a theory that depends critically on the existence of strong borders. Once that assumption is removed, then the reality of capital moving freely in pursuit of absolute cost advantages in the region as a whole, rather than comparative advantage within national borders, must be recognized.[9]

---

[8] See for example K. Battle and S. Torjman, Federal Social Programs: Setting the Record Straight. Caledon Institute of Social Policy, Spring 1993.

[9] The following articles provide critiques of neo-classical theory and C.G.E. models: H. Daly and R. Goodland, An Ecological Assessment of Deregulation of International Commerce Under GATT, World Bank, Environmental Dept. 1992 (mimeo); H. Daly and J. Cobb, For the Common Good, Beacon Press, 1989; J.O. Stanford, Continental Economic Integration: Modelling the Impact on Labour. Annals of the American Academy of Political and Social Science, March 1993; and, U.S. Congressional Office of Technology Assessment, U.S.-Mexico Trade: Pulling Together or Pulling Apart, October 1992.

Another critical assumption of the neoclassical case for free trade is that all national economies are at full employment and that other than short term, there is no net job loss following trade shifts. Rather, there is a restructuring which involves movement from less efficient to more efficient jobs. However, in an economic space dominated by capital mobility and absolute advantage considerations, there is no guarantee that specialization and trade will not harm one or more of the countries (or regions or the majority of the population within each country) in terms of loss of capital and jobs and therewith a loss in aggregate demand and output, even if one were to assume that it would increase overall output in the economic integration area as a whole.

During the 1980s, Mexico, under conditions of extreme financial duress, dramatically opened its economy, deregulating trade and investment. It produced a boom in manufacturing exports. Led by autos and the border free trade zones, the maquiladora sector, exports expanded more than fourfold during the period 1980-88[10]. However, during the same period aggregate output remained at a standstill and average real wages fell precipitously. "The combination of recession in the domestic market and the free market orientation of the government has resulted in a drastic deterioration of the standard of living of the working population."[11]

Although connections are hotly denied by most free trade proponents, the restructuring of the Canadian economy in the free trade era has brought major job loss, shrinking aggregate demand, and investment diversion (see pp. 35-40).

A measure of the inability of general equilibrium models built on neoclassical assumptions to accurately predict the effects of free trade is evident when comparing the CGE models' employment forecasts for Canada under the FTA with the actual Canadian employment experience. These results are summarized in table 1. The divergence between the expected and the actual is so great that, even taking into account the other factors at play, their claims to scientific predictive value are questionable.

---

[10] H. Shaiken, Mexico in the Global Economy, UCLA, San Diego, 1990, p. 2.

[11] Diana Alarcon Gonzalez, "Can Trade Liberalization Alleviate Income Inequality in Mexico," Colegio de la Frontera Norte, mimeo, 1992.

EFFECTS OF U.S.-CANADA FTA ON SECTORAL EMPLOYMENT IN CANADA
Projected Percentage Changes by Selected Studies

	Cox Harris 1986[1]	Economic Council 1987 S1M2[2]	Brown Stern 1987[3]	Brown Stern 1989[4]	Actual %[5] changes Dec. 1988 to Dec. 1992
Forestry/logging			2.2		-13.1
Mines, quarries, oil wells		4.7	2.2	-1.1	-23.4
Food and beverages	-1.8	2.9			-14.7
Rubber and plastics	6.2	-0.7	2.4	-1.2	-27.4
Leather industries	-6.9	-5.2			-36.3
Textile	72.5	-0.7	-0.4	-35.4	-23.2
Clothing	261.6	2.6	0.8	-6.4	-39.6
Wood	-12.1	5.0	1.1	-6.1	-23.3
Furniture	-37.4	2.4	2.4	-2.5	-30.3
Paper and allied	31.7	1.1	0.7	-19.3	-18.1
Printing and publishing	13.5	7.1	-0.9	-3.3	- 9.7
Primary metals		3.9			-22.2
Iron and steel	27.9		1.2	28.5	-28.5
Nonferrous metals			3.1	152.4	-12.5
Metal fabricating	-6.6	2.8	-1.6	-7.1	-21.3
Machinery	-33.2	2.8	2.5	-1.2	-28.8
Transportation equip.	62.2	1.6	3.3	0.5	-12.2
Electrical products	-0.5	-2.5	-0.7	-14.2	-22.3
Non-metallic mineral	-0.6	2.8	0.6	-16.8	-27.8
Petroleum and coal	-7.4	1.3	2.5	-11.6	-18.4
Chemicals	-0.2	0.6	-0.8	17.9	- 7.8
Construction		6.7	-0.1	1.0	-24.0

Source: Adapted from Ricardo Grinspun, "Are Economic Models Reliable Policy Tools? Forecasting Canadian Gains from Free Trade." Toronto: York University (work in progress, 1992).

---

1. D. Cox & R. Harris, "A Quantitative Assessment of the Economic Impact on Canada of Sectoral Free Trade with the US", Canadian Journal of Economics, 19, 1986, pp. 377-94.
2. Economic Council of Canada, Venturing Forth: An Assessment of the Canada-US Free Trade Agreement, p. 22.
3. D. Brown & R. Stern, "A Modelling Perspective", in Stern et al, Perspectives on US-Canadian in Free Trade, Brookings, 1987.
4. D. Brown & R. Stern, "Computable General Equilibrium Estimates of the Gains from US-Canadian Trade Liberalization", in D. Greenway et al (eds.), Economic Aspects of Regional Trading Agreements, N.Y. University Press, 1989.
5. Statistics Canada, Employment, Earnings and Hours.

To illustrate the lack of realism of neoclassical assumptions built into CGE models, Stanford outlines an imaginary conversation between an auto worker and a CGE model builder. It bears quoting in its entirety:

> Imagine a conversation between an auto worker in the Midwest and the architect of one of the CGE models reviewed above. The worker fears that her employer (Ford) may transfer the production of, say, Taurus cars to Mexico, hiring workers for less than one-tenth her wage with no independent union; output is exported back to the U.S.. She would be laid off -- and in a region with a chronically depressed "Rustbelt" labour market, would be unlikely to find another job with comparable wages.
>
> The CGE modeller quickly reassures the employee. "Don't worry," he says. "In my model, firms cannot move their factories to Mexico (no capital mobility), and the lack of union protection there has no impact on wages (competitive factor markets). At any rate, the Tauruses produced in Mexico are fundamentally different from those produced at home, and are not preferred by U.S. consumers (Armington assumption). Anything imported from Mexico must be balanced by exported American products (balanced trade). And because you earn above-average wages at Ford, you obviously possess much 'human capital' (competitive factor markets), and thus you will certainly find another job very shortly (full employment) in one of the new export industries, which will probably pay more than your current job. So a NAFTA will be great for you... at least in my model." We might forgive the Ford employee for being less than convinced by a CGE model that crosses a deep ravine by assuming a bridge.[12]

The complexity of the FTA and the complexity of the reality with which it interacts preclude neat surgical isolation and precise measurement of causal linkages. It has interacted with, reinforcing certain policies and has itself been reinforced by other policies. Some of its effects have been clear and direct while others have been obscured by cyclical economic changes. Still other effects been indirect and difficult to measure. The threads of causality are intricate and their effect is cumulative. Nevertheless, there is compelling evidence which, although partial and not conclusive in the strict scientific sense, suggests that it has been a major force driving social, economic and political change in Canada.

A detailed critique of the theoretical case for free trade is beyond the scope of this chapter. One further point does need to be made, however; namely, that one cannot talk about free trade agreements in the abstract. The FTA/NAFTA has little in common with conventional free trade agreements. The multitude of agreements of this type which have come into being since the Second World War (the European Free Trade Area and the Latin American Free Trade Agreement are examples) have been essentially tariff reduction agreements on merchandise trade. If FTA/NAFTA were such a deal, there would be relatively little controversy. It is, despite its name, a economic integration agreement as ambitious in many areas (more ambitious in some such as resources trade) as that which is taking place in the European Community.[13] Therefore FTA/NAFTA must be analyzed concretely in terms of its specific provisions and their impacts and not according to some modelled formulation of "free trade" to which it bears little resemblance.

---

[12] Stanford, 1993, op. cit. p. 15. The Armington assumption referred to in the quote originates from the article by P. Armington, "A Theory of Demand for Products distinguished by place of Production", IMF Staff Papers, 1969.

2. KEY CHANGES IN THE GLOBAL ECONOMY: PROVIDING A CONTEXT FOR ANALYZING THE FTA/NAFTA

This section is a schematic overview of major changes in the world economy in the last 40 years. Its purpose is to provide a framework within which to analyze the FTA/NAFTA.

The globalization process has been driven by simultaneous technological revolutions in computers, in telecommunications and in transportation. It has also been driven by corporate strategies, by government policies, domestic and foreign (most importantly those of the dominant states: Europe, Japan and the United States). Finally, it has been driven in the last 20 years by the marriage of corporate interests with a resurgent neoclassical economic theory. The product, a powerful laissez-faire ideology of deregulation, privatization and liberalization, established its dominance within the key centres of political power, including the World Bank, the International Monetary Fund (IMF) and the GATT, and left the Keynesian economic management structures and the welfare state in tatters[14].

---

[13] See for example B.W. Wilkinson, "Regional Trading Blocs: Fortress Europe and Fortress North America", in D. Drache & M. Gertler (eds.), The New Era of Global Competition, McGill Queens 1991; and P. Morici, Trade Talk With Mexico: A Time for Realism, 1991. A free trade proponent, Morici acknowledges that FTA and NAFTA are economic integration agreements.

[14] P. Marchak, The Integrated Circus: The New Right and the Restructuring of Global Markets, McGill-Queens Press, 1991.

Trade

The most obvious manifestation of globalization has been a generalized opening since World War II of national economies (ratio of trade to output), and the emergence of the global marketplace. What is new, particularly in the last 25 years, has been the internationalization of goods production or global sourcing. (This process is also becoming evident in services such as data processing). For an elite group of corporations, decisions about how and where to locate and combine the various elements or steps in the production process are global in scope, taking place more and more as if national boundaries did not exist.

From 1947 to 1990 world trade volumes grew by 500%, more than double the 200% growth of world output. Trade has become a more important component of many countries' economies. For example, US trade more than doubled from 4.5% of GDP in 1950 to 10.7% of GDP in 1990. and Germany's trade soared from 13.5% to 33.2% of GDP during this period. On the other hand, in countries like Britain and Canada, trade was a major component of their economies throughout this period and its share of GDP remained relatively stable. Britain's trade was 25.5% of GDP in 1950 and was the same in 1990. Canada's trade was 22.1% of GDP in 1950. After rising to 27% in 1980, it settled down to 25% in 1990. Japan's trade jumped from 10.9% of GDP in 1960 to 15.7 % in 1980 but dropped back down to 10.4% by 1990[15].

Commensurate with the opening of national economies has been a general slowing down of economic growth worldwide (and as we shall see later an intensification of the struggle for income shares), a general rise in unemployment and more pronounced swings in the business cycle. Output and trade growth were most rapid in the first two post-war decades. Thereafter the world economy slowed markedly, especially during the 1980s. Industrial world unemployment doubled from an average annual 3.8% during 1967-76 to 7.2% during 1980-91.[16] In the industrial world annual GDP growth dropped from 3.7% during 1967-76 to 2.5% during 1980-91. More dramatic was the situation in the

---

[15] N.S. Fieleke, The International Economy Under Stress, Ballinger 1988, p. 198. International Monetary Fund, World Economic Outlook, Washington, May 1992, April 1985.

[16] OECD, Labour Force Statistics.

Third World, where annual GDP growth fell from 6% during 1967-76 to 2.5% during 1980-91. The growth of trade volumes also slowed considerably--in the industrial world, from an annual rate of 7.8% during 1967-76, to 4.4% during 1980-91; and in the third world from 6.8% during 1967-76 to 3.2% during 1980-91[17].

With a small group of notable exceptions, third world countries still export to the industrial world mainly resources and resource-based commodities. The international debt crisis has increased the pressure to service debt and therewith the pressure to exploit and export these products. The resulting oversupply has been a contributing factor to the dramatically worsening terms of trade for resources in international exchange. The real price index of natural resources, taken as a whole (including oil) in 1990, was 30% below its 1980 level and 40% below its 1970 level[18]. During the 1980s the real price of sugar dropped 64%, coffee dropped 30%, wheat dropped 17% and crude oil dropped 53%[19]. Resource exporters desperate for foreign exchange have had to run harder just to stay in the same place. And this occurred during a decade when environmentalists have been calling for increases in resource prices to internalize real environmental costs.

Natural resources production and trade have also been key to Canada's development. Resource and semi-processed goods make up 50% of all Canadian exports[20]. It has the highest share by far of resource-based exports in the G-7. Its large current account balance of payments deficit reflects in part worsening terms of trade for its resource exports. Clearly this is not a sustainable development path for the 21st century. Yet, despite the rhetoric of shifting to knowledge-intensive environmentally sustainable exports, there are signs that Canada's share of non-resource-based industrial exports is declining under free trade[21].

---

[17] op. cit. IMF.

[18] L. Thurow, Head to Head: The Coming Economic Battle Among Japan, Europe and America, Morrow, 1992, p. 41.

[19] Ecumenical Coalition for Economic Justice, Recolonization or Liberation, 1990, p. 20.

[20] Bank of Canada Review, December 1992, J5.

Finance

Globalization is also associated with the emergence of a global financial market, privatized and greatly deregulated, through which disturbances can be readily transmitted from country to country, but coexisting with national currencies. The growth in international credit through private financial markets has, since 1970, far outstripped all the other economic aggregates. According to The Economist, at least $900 billion a day changes hands in international currency markets, 50 times greater than the volume of trade transactions[22].

Changes in the international financial system in the last 20 years have had major impacts on national economies and have placed perhaps the greatest constraints on national sovereignty. These include the abandonment of fixed currency exchange rates and the de-linking of the dollar from gold, the expansion of international credit driven by the explosive growth of the Eurodollar market which transcended national systems of regulation and control has been, according to many analysts, a central factor in the greater instability in the world economy: enormous exchange rate volatility, huge chronic balance of payments disequilibria, inflation-deflation swings, interest rate swings, and financial crises and severe recessions.

The third world and Eastern European debtor countries paid dearly for their participation in the new unregulated system of credit creation when bank finance dried up in the early 1980s. The unwillingness of bank creditors and their creditor governments led by the United States to accept any default or write-off led to the forced adjustment of their economies to meet debt service payments, supervised by the IMF and the World Bank. These forced austerity programs have typically involved strict control of money and credit creation, wage controls and price deregulation, public spending cuts and privatization, removal of trade and exchange controls, and currency devaluation. The consequences have been extraordinary social and economic hardship among the populations of these countries, and debt burdens remain very high. As mentioned above, it has also led to the accelerated depletion of their resources and environmental degradation as debtor countries have been forced to increase resource exports (at falling prices) to service their debts to Northern creditors.

---

[21] M. Porter, Canada at the Crossroads: The Reality of a New Competitive Environment, Supply and Services Canada, 1991, pp. 17-18. According to US International Trade Commission figures, US resource imports from Canada have risen causing its resources trade deficit with Canada to jump from US $10.4 billion to 13.4 billion during 1988-92. Meanwhile a huge increase in US manufactures exports to Canada has turned a 1988 manufactures deficit of US $12.9 billion into a $3.5 billion surplus in 1992. US ITC International Economic Review, March 1993, p.31.

[22] Cited in R. Culpepper, Ottawa Citizen, October 29, 1992.

The fact that many countries, including Canada, allowed their own financial systems to become increasingly integrated with unregulated global markets has encouraged an increase in net foreign indebtedness, with an increased portion of this debt of a short-term nature and thus highly sensitive to changed expectations on the part of foreign money managers. Ballooning current account deficits are not corrected by currency devaluation, but are propped up by the inflow of credit. Once hooked, governments are increasingly hostage to the logic and imperatives of these markets. Both their monetary and fiscal polices are constrained. Political accountability to the electorate becomes less important than accountability to foreign creditors.[23]

---

[23] M. Bienefeld, "The Political Economy of Financial Deregulation in Canada", Studies in Political Economy, Fall, 1992.

Transnational Corporations and Direct Investment

The transnational corporation (TNC) has emerged as the principal agent of globalization, the principal economic and political driving force in the world economy. One hundred transnational banks account for the vast majority of global financial flows. A relatively small group of 600 TNCs account for roughly one-quarter of global output, both inside and outside their home countries.[24] Transnationals control 70% of global trade. The 350 largest account for almost 40% of the world's merchandise trade. Commodity trade is even more concentrated. For example, six transnationals at most in each group control 85-90% of global wheat trade, 75% of crude oil trade and 95% of iron ore trade.[25] Twenty transnationals control 94% of world pesticide sales. One-third of their pesticide exports outside the industrialized world are banned in the country of manufacture[26].

Transnationals operate mainly through foreign direct investment (FDI), global networks of affiliates and subsidiaries through which they have internalized markets. But they but also operate through joint ventures, strategic alliances and other arrangements. Besides conducting the bulk of international trade, they hold proprietary rights over most of the world's technology.

Foreign direct investment by TNCs (which involves ownership and control) grew three times faster than the growth of exports and four times faster than the growth of world output in the 1980s. In 1989 the FDI flows totalled $196 billion, pushing the global stock of FDI to $1.5 trillion[27].

More than four-fifths of the world's FDI stock and flows (outflows and inflows) takes place among the developed countries. The LDCs' share of FDI flows dropped from 25% during 1980-84 to 17% during 1988-89. During 1985-89, 77% of the outflow of FDI (denoting the home base of corporations undertaking the foreign investment) and 65% of the inward flow of FDI (denoting the destination of that investment) occurred within the triad of Europe, Japan and the United States. This is much higher than these countries' share of world trade, which is roughly one-half. Five countries - the United States, Britain, Japan, Germany and France - are the home base for 70% of the global outflow of FDI.[28]

---

[24] U.N. Centre on Transnational Corporations, Transnational Corporations in World Development: Trends and Prospects. Executive Summary, 1988, p.2.

[25] op. cit., Ecumenical Coalition for Economic Justice, p. 19.

[26] Greenpeace, Beyond UNCED, 1992, p. 13.

[27] United Nations Centre on Transnational Corporations, World Investment Report 1991, p. 3-25.

The rapid expansion of FDI in the 1980s is almost certainly increasing the proportion of world trade accounted for by intra-corporate trade, that is, transfers across borders of goods and services between affiliates of the same corporation. Data deficiencies make the share of world trade that is intra-corporate difficult to determine. Some estimates have placed it at 25% of world trade[29]. However, in the United States intra-corporate trade accounts for 35-40% of trade[30] and in Canada it accounts for fully one-half of all trade[31]. Unlike arms-length or open market transactions, the prices of these transfers are internal accounting entries determined by the management. A growing proportion of intra-corporate trade in the world suggests that transnationals have greater capacity to use internal transfer price accounting to evade taxes in jurisdictions where taxes are high and declare profits where taxes are low. In the absence of international regulation of these practices, transfer pricing puts downward pressure on corporate taxes everywhere.

The growth of transfer pricing by transnationals, together with other factors such as the international capital mobility and exchange rate fluctuations, has major implications for national efforts to internalize environmental costs. A country that internalizes environmental costs into its prices is disadvantaged vis-a-vis a country that does not internalize its environmental costs. According to World Bank environmental economist Herman Daly "[Free trade] stimulates an international competition to lower standards and attract (or retain) capital. Wages, health insurance, worker safety standards and environmental standards, etc., can all be lowered in the name of reducing costs."[32]

---

[28] ibid.

[29] International Monetary Fund, IMF Survey, 1992, pp. 227-230.

[30] U.N. World Investment Report 1991, op.cit. p. 46.

[31] B. Mersereau, "Characteristics of Importing Firms: 1978-86," Canadian Economic Observer, Statistics Canada, August 1992.

The formidable power of TNCs - their mobility, their power over knowledge and information, their political power - has major consequences for national societies and their governments. In the absence of a proper regulatory structure, nationally and internationally, they weaken public treasuries by their ability to evade taxes and by their power to extract tax incentives. They foster downward cycles of competitive bidding among governments, weakening tax, social, environmental and other regulatory regimes, and generally narrow the parameters of public policy options. They weaken the power of labour, and exacerbate imbalances in the distribution of income. They bankroll political parties which come to power with accommodative policies which facilitate the kind of regulatory regimes that exacerbate these tendencies.

Globalization, in altering the relative power between workers and corporations, has weakened industrial relations systems. There is a tendency for corporations, operating especially in countries that do little to restrain or regulate the market, to adopt low-wage strategies as a substitute for technology-driven high-wage competitiveness strategies, with the consequence being widening income disparities, and a decline in wages and living standards in these countries. Labour's gains, achieved painstakingly over time, quickly dissipate as plants close in their countries or communities and reopen where unions are weak or nonexistent[33].

---

[32] H. Daly, "Free Trade, Sustainable Development and Growth Alert", Eco-Perspective June 1992, p. 10.

[33] R. Marshall, "Unions and Competitiveness", paper presented at United Steelworkers Conference, Empowering Workers in a Global Economy, October 1992.

Knowledge-based Production

The process of globalization is also manifested in changed structures of knowledge and information. The computer has permitted a vast increase in the ability (and lowered the cost) of gathering, storing and processing information. Satellites have vastly increased the ability and speed (and lowered the cost) of transporting information around the globe.

Production has become dematerialized and deterritorialized. Knowledge has become a critical input into the production process. It has allowed the globalization of markets, the global sourcing of inputs in manufacturing, and increasingly the global sourcing of services, including knowledge inputs into the production process. Knowledge/information has become a major focus of competition between nations. Being at the leading edge of advanced technology has become the source of economic and military dominance.

The production and ownership of knowledge and technology has become increasingly concentrated within TNCs, which hold the vast majority of the world's patents, and within national economies which are home to these corporations and where the bulk of "knowledge workers" and other knowledge resources are concentrated. Home country governments purchase and finance knowledge and education, and regulate the terms and conditions under which knowledge is generated, transmitted and owned. There has been a significant shift from knowledge as common heritage to knowledge as private property.

Transnationals have strengthened their control over knowledge by successfully securing through national legislation and international agreements a greatly widened scope of proprietary knowledge (intellectual property rights) encompassing plant and animal life forms, and extended periods of monopoly protection through patents and other intellectual property instruments. This has been a major thrust of United States policies at the GATT, in the NAFTA, and through unilateral action under US trade law.[34] For example, Canada, despite its extension of monopoly patent protection in

---

[34] See for example S. Ostry, Governments and Corporations in a Shrinking World, New York, Council on Foreign Relations 1990 for an account of U.S. pharmaceutical companies pushing their agenda at GATT.

1987 (Bill C-22), continues to be under the cloud of retaliation under section 337 of US trade law. India's laws giving shorter monopoly drug patent protection prompted US retaliation in May 1992 against imports from India. It has been estimated that global implementation of US patent demands could transfer up to $US 102 billion in royalty payments from the third world to the transnationals.

This control is further enhanced as the "life cycle" of products diminishes and new ones take their place. For example, in the informatics industry more than half the products are less than five years old. In the chemical and pharmaceutical industries half the products are less than 10 years old.[35]

Reflecting the relative paucity of home-based transnationals, Canada is a technology importing country. Ninety-five per cent of Canadian patents are owned abroad[36]. It is also reflected in Canada's weak R&D performance (ranked 17th of 24 OECD countries) which is even weaker when the public sector is excluded.[37]

Regionalization

Commensurate with globalization has been a regionalization of the world economy, with three basic spheres of regional integration: Japan and East Asia, core Europe and peripheral southern and eastern Europe, and the United States and the Americas. This is evidenced both in trade and foreign direct investment trends. The value of trade between the three spheres or blocs is currently about the same size as trade within these regional economic blocs.

The latter two regions are establishing formal integration arrangements. In the case of Europe, formal political union is the explicit goal. In the Americas, the direct and indirect harmonization of key policies in line with those of the United States under "free trade" initiatives is reducing the sovereignty of its partners and moving toward de facto political annexation. Trade and other economic relations between regions will continue to be governed by multilateral arrangements such as GATT, while rules established by NAFTA and the EC will supersede GATT in governing relations within regions.

---

[35] L.K. Mytelka, "Knowledge Intensive Production and the Changing Internationalization Strategies of Multinational Firms," in J. Caporaso ed. The Changing International Division of Labour, Reinner, 1987, p. 50.

[36] R. Davidson, Analysis of Preliminary Draft Text - North American Free Trade Agreement, Intellectual Property, Canadian Centre for Policy Alternatives, March 1992.

[37] National Advisory Board on Science and Technology, Innovation and National Prosperity: The Need for Canada to Change Course, April 1991.

That economic integration arrangements exacerbate pressures on national political sovereignty is confirmed by the United Nations 1991 World Investment Report. "... A country with policies of high taxation and extensive social benefits may find its fiscal base eroded, if businesses shift to neighbouring countries with lower taxes following regional integration... a whole range of policies, including industrial, environmental and social policies, may face increasing pressures to change as a result of integration with countries with different policy frameworks."

The UN report continues: "No single country can effectively regulate the activities of transnational corporations, and the boundaries between national and international issues of governance are becoming increasingly blurred with the increasing globalization of business activities..." It cautions, "Competition among countries for more foreign direct investment, if free from any rules, may lead to a beggar-thy-neighbour policy and detract from the bargaining power of governments vis-à-vis transnational corporations." What is required, according to the report, are multilateral instruments of governance. "Regrettably, (it notes) such a multilateral framework is lacking...attempts at coordination have been episodic and often limited in the context of regional economic blocs."[38] What it does not say is that existing agreements on rules and regulations governing the activities of transnationals, which are negotiated in forums such as the GATT, reflect the interests of the dominant triad nations, and their home-based transnationals.

---

[38] UN World Investment Report 1991, op. cit. pp. 85-86.

Employment, Income Distribution and Environment

Globalization of structures of production, investment, trade, finance and regulation have produced changes in the structure of employment and income distribution. Unemployment in the industrial world has doubled from an average annual rate of 3.8% during 1967-76 to 7.9% during 1980-91[39]. Income disparities between nations of the North and South have widened dramatically. The changing structure of employment and income distribution has adverse implications for macroeconomic stability: for the fiscal capacity of governments, for aggregate demand, investment, and for environmental sustainability.

Forty-seven of the hundred wealthiest entities in the world, in terms of output, are now corporations, and 53 are countries. The 1992 United Nations Human Development Report found that the gap between the rich and poor countries has doubled since 1960.[40] The countries that make up the richest 20% of the world's population now have an average per capita income 60 times greater than the countries that comprise the poorest 20%. With domestic inequalities factored in, the income gap rises to 150 times. Third world debtor countries have been squeezed extra hard in the 1980s by Northern banks and their governments, working through the International Monetary Fund and the World Bank. They made net financial transfers to the industrialized countries of $US 22 billion per year during 1983-90, a dramatic reversal from the net financial transfer into the LDCs of $US 21 billion per year during 1972-82.[41]

The polarization of income, the gap between the rich and the poor, and the shrinking of the middle-income strata, have been accelerating, not only between nations, the same pattern is evident within nations. For example, in Latin American countries, where the distribution of income is already more severely skewed than in the industrialized countries of North America, these imbalances have worsened at a much faster rate in the 1980s than in the North. In Mexico, for example, the real average manufacturing wage dropped 50% during 1981-90[42]. The wages share in national income dropped from 36.1% to 25.8% and capital's share rose from 47.7% to 53.2%.[43]

---

[39] OECD Labor Force Statistics..

[40] United Nations, United Nations Development Program, Human Development Report 1992, p. 36.

[41] Ibid., p. 52

The US also experienced a polarization of incomes that had not occurred since the 1920s. In the US real wages of non-supervisory employees dropped 20% between 1972 and 1991.[44] The share of family income held by the top fifth of families jumped from 41.7% in 1979 to 44.6% in 1989, with the top 5% accounting for almost three-quarters of this increase. Conversely, the bottom four-fifths of families all lost income share, with that of the lowest fifth dropping from 5.2% to 4.6% of the national income pie.[45] In Canada, the top fifth of Canadian families saw their share of the national income pie rise from 38.3% to 40.0% during 1981-91, according to Statistics Canada. Virtually all of this gain accrued to the top 10% of families whose share jumped from 22.9% to 24.5% of national income.

Moreover in Canada it appears that the redistribution of income from low and middle income groups has accelerated in the free trade era. According to unpublished Statistics Canada figures, the top 20% of economic families increased their share of the national income pie by 4.9% during the four years 1987-91. This is almost as great as the 5.6% gain they achieved in the 14 years 1973-87. Meanwhile, the bottom 60% of economic families saw their income share decline by 7.3% during 1987-91. This is larger than the decline in their income share of 6.7% during the entire period 1973-87.[46]

Economist Robert Reich links wage polarization to globalization. What he calls "symbolic analytic services" based on the manipulation of information -- e.g., lawyers, technologists, accountants, business executives, management consultants, etc. -- accounted for the roughly 20% of jobs whose wages are rising, while the wages of routine production and clerical workers are falling.[47] The so-called good jobs which derive from skills in technology and information, are concentrated in a few countries and are characterized by rising wages. Bad jobs -- that is, routine lower-skill jobs -- can increasingly originate anywhere, and therefore wages are being bid downward.[48] "In a global economy a worker has two things to offer -- skills or the willingness to work for low wages. Since products can be built anywhere, the unskilled who live in rich societies must work for the wages of the unskilled who live in poor societies. If they won't work for such wages, the unskilled jobs simply move to poor countries."[49]

---

[42] Economic Policy Council - UN Association of the United States, The Social Implications of a North American Free Trade Agreement, 1993, p. 11.

[43] C. Salinas de Gortari, Segundo Informe de Gobierno, Nov. 1990, Annexo p. 137.

[44] W.R. Mead "Bushism Found", Harpers Magazine, September 1992, p. 41.

[45] L. Michel and D. Frankel, The State of America, Economic Policy Institute, 1991, p. 21.

[46] Statistics Canada, Household Surveys Division, Distribution of Market Income, cited in A. Yalnizyan, Defining Social Security, Defining Ourselves, Canadian Centre for Policy Alternatives, May 1993, Table 1, p.3.

The problems of growing inequality and poverty between and within nations which have accompanied globalization not only raise issues of social justice but are also directly linked to problems of chronically weak aggregate demand and economic stagnation, as well as ecologically reckless resource depletion and environmental pollution.

The adverse environmental effects of globalization have stretched the planet's carrying capacity to the breaking point. The situation, according to environmentalist Lester Brown, could hardly be worse.

> Every major indicator shows a deterioration in natural systems: forests are shrinking, deserts are expanding, croplands are losing topsoil, the stratospheric ozone layer continues to thin, greenhouse gases are accumulating, the number of plant and animal species is diminishing, air pollution has reached health threatening levels in hundreds of cities, and damage from acid rain can be seen on every continent.[50]

---

[47] R. Reich, The Work of Nations - Preparing Ourselves for 21st Century Capitalism, Alfred Knopf, 1991.

[48] G. Betcherman, "The Declining Middle", in D. Drache ed. Getting on Track: Social Democratic Strategies for Ontario, McGill-Queens Press, Canadian Centre for Policy Alternatives, 1992, p. 132.

[49] Thurow, 1992, op. cit., p. 52.

[50] L. Brown, "Economics versus Ecology: Two contrasting Views of the World", EcoDecision, June 1992, p. 19.

Imbalances in income and output between the Northern industrialized countries and the South correlate highly with imbalances in the consumption of resources and pollution. The North, with 23% of the world's population, produces and consumes 85% of the world's ozone destroying CFCs[51], and consumes 74% of the world's energy resources[52]. The OECD countries released approximately 40% of global sulfur oxides emissions and 54% of nitrogen oxides emissions -- the primary sources of acid precipitation. They generated 68% of the world's industrial waste as measured by weight.[53] Poverty correlates highly with overpopulation, inadequate housing, pollution health hazards, and environmentally degraded lands.

The consequence of ignoring the fact that the biosystem is a closed system and that consuming the earth's natural capital at such an alarming rate has not sunk in with the majority of the political, business, and intellectual establishment (despite periodic lip service) who continue to treat the earth as if it were a "business in liquidation." This is reflected, according to Charles Arden-Clarke of the World Wildlife Fund, in the trade and environment resolutions put forward at the 1992 Earth Summit: "The whole of the Agenda 21 section dealing with trade amounted to the evasion of key trade and environment issues rather than a basis for their solution"[54].

To the extent that global trade trends are ecologically unsustainable, the implications for a country like Canada, which depends so greatly on resources export, are enormous.

---

[51] Cited Greenpeace, Beyond UNCED, 1992, p.3.

[52] World Resources Institute, World Resources, 1992-93, p. 6, 216.

[53] ibid., p. 17.

[54] C. Arden-Clarke, WWF-International, "Trade and Environmental Policies after UNCED: Reconciling the Irreconcilable", cited in French, op.cit., p. 53.

Tripolar Economic Rivalry and U.S. Decline

A final manifestation of the process of globalization commensurate with the rise of transnational corporate power is the struggle among nations for economic dominance. This is reflected, as mentioned earlier, in the emergence of a tripolar economic world. Large nations which are home to transnational corporations exert great control over these corporations which they see as vehicles for enhancing their own national interests. As such they push for international agreements which by enhancing corporate power, also enhance national power. So globalization the strengthening of the power of some nations and weakening the sovereignty of many other nations, particularly smaller nations which don't have a strong core of home-based transnationals.

Globally this struggle has seen the relative decline of the United States' economic dominance (reflected in indicators such as: slow productivity growth, loss of technological advantage in many areas, declining share of international output, trade and investment, shift from international creditor to international debtor), and the emergence of Japan as a full-fledged economic superpower.

From 1985-89 Japanese FDI outflows increased at an annual rate of 62%, accounting for 23% of world FDI outflows in this period. Although Japan's share of the world's stock of home-based FDI is currently about one-third of the US and EC's share, it is projected to reach parity by the turn of the century and thereafter surpass the others and become the largest home base of foreign direct investment. The vast majority of Japanese FDI went to the EC and the US.[55]

Changes in investment patterns mirror the emergence of European and especially Japanese transnationals to rival the traditional dominance of US transnationals. In 1970, 64 of the world's 100 largest industrial corporations were located in the US, 26 in Europe and 8 in Japan. By 1988, 42 were located in the US, 33 were located in Europe and 16 were located in Japan. In 1970, 19 of the 50 largest banks in the world were located in North America, 16 were European and 11 were Japanese. By 1988, only 5 were North American, 17 were European and 24 were Japanese.[56]

---

[55] UN World Investment Report, 1991, op. cit.

[56] Thurow, 1992, op. cit., p. 30.

The American effort to establish a regional integration arrangement on the North American continent and its plan to extend it throughout the western hemisphere (the Enterprise for the Americas Initiative) should be seen in this light. It is an effort to regroup and reassert control in an area of the globe where this is easiest to do as part of a strategy regaining economic dominance globally; specifically, to secure and expand markets and investment opportunities throughout the hemisphere. This initiative is very much in line with the US (and Canadian) corporate agenda.

Globalization: An Unsustainable Course

The globalization process in the last 25 years reflects the ascendance of the global power of transnational corporations and the relative decline in the power and/or inclination of governments to manage economic activity. The global economy that is being created is driven, in the words of Reich, by the "merciless logic" of the drive for profits. It is a process of deregulation and privatization. Its consequences are distortions in the development process among and within nations -- massive international financial imbalances and huge public and private sector debt levels, stagnation, instability, mass unemployment, growing imbalances in income distribution between and within nations, worsening poverty and hunger, acceleration of natural resource depletion, and environmental degradation.

In sum, the world economy has been moving along an increasingly unsustainable development path. According to Maurice Strong, "We simply cannot survive the pathway we are on... We're only going to change it through fundamental economic change."

The main indicators and effects of the globalization process observed in this chapter have been reproduced or reflected, to a greater or lesser extent, within the Canadian and Ontario economies. Some nations have managed to buck global trends or mitigate their effects. However, the current Canadian situation is the culmination of structural weaknesses and government policies, which have tended to magnify the effects of globalization. The question to which we now turn is: to what extent does the FTA/NAFTA mitigate or reinforce the globalization process and its effects?

3. THE FTA/NAFTA: IMPLICATIONS FOR POLICY MAKING AND SUSTAINABILITY

Deregulating Capital, Removing Policy Tools

The Canada-US Free Trade Agreement, extended and expanded into NAFTA, is a comprehensive economic integration agreement. It covers trade in services as well as goods, capital mobility as well as enhanced labour mobility for professional and business groups, and the activity of corporations as well as the management of resources. It also establishes regimes governing financial, transportation, telecommunications and agricultural sectors, an intellectual property code, and procedures for harmonizing standards in areas such as professional qualifications, agricultural inspection and health. It is as comprehensive in many areas as the integration initiative of the European Community and, indeed, goes beyond it in areas such as resources.[57] Directly or indirectly, little of Canadian economic, social or environmental policy has been untouched by it.

The FTA/NAFTA codifies and consolidates in treaty, a continental integration process which has proceeded quite rapidly in the 1980s. Not only has it continentalized these regulatory regimes, but it has also introduced new regimes and stimulated a major new round of economic integration and restructuring. Ultimately, the FTA/NAFTA represents a further shift in power in favour of capital, reinforcing the globalization trends already discussed, further constraining government policy, and weakening the power of labour and other social groups.

Key provisions of FTA/NAFTA weaken or remove a host of policy tools that help to hold corporate decision-making accountable to national or provincial economic priorities. These include: performance requirements to promote domestic value added, technology transfer, etc., resource management tools such as export taxes or quotas to encourage domestic processing, agricultural supply management tools to balance supply and demand, compulsory licensing of patents to nurture home-grown technology, and many more. Other provisions prevent government from adopting policies which favour the development of domestically owned or foreign owned businesses; still others limit governments' ability to meet policy objectives through public enterprises or procurement policies.

---

[57] B.W. Wilkinson, op. cit.

The Ontario Attorney General's 1988 FTA legal analysis captured the magnitude of the Agreement in the following passage: "(It) will permanently alter the capacity to make economic and social policy in Canada, sometimes shifting it to the federal government, sometimes abandoning it for all governments. This dramatic change in the ability of governments to respond to the legitimate expectations of their populations amounts to a constitutional change."[58]

The author has argued elsewhere that, if one looks back over the last four years, the FTA can be seen to have been an effective multi-purpose device for securing and advancing the agenda of deregulation and privatization launched by the Conservative government in 1984: 1) it has acted as a wedge, providing impetus for major policy initiatives to further entrench or "constitutionalize" the agenda; 2) it has acted as a ceiling, hindering or preventing intervention-minded governments from implementing their agendas, and thwarting legislation which bends corporate activity with public priorities; 3) it has served as a vice within which the federal government continues to unilaterally deregulate, further compressing the policy space available to future governments; 4) it has been used by the United States in tandem with GATT as a whipsaw to further weaken or eliminate interventionist Canadian laws and regulations; and 5) the FTA has served the Conservative government as a key lever to facilitate and speed up the implementation of its agenda of continental integration of the Canadian economy and harmonization of Canadian economic, social, and environmental policies.[59]

FTA/NAFTA enables capital to operate freely throughout an integrated economic space. It enables companies to make decisions about how to organize production and where to add value, where to locate new investment, where to close down a facility, where to conduct R&D, advertising and accounting, where to source supplies, where to transfer management and other professional personnel, unimpeded by "non-commercial" considerations.

---

[58] Attorney General of Ontario, Legal Analysis of the Canada-US Free Trade Agreement, May 1988, p. 9.

[59] Bruce Campbell, "Restructuring Canada into the Free Trade Era", in R. Grinspun and M. Cameron (eds.), The Political Economy of North American Free Trade, McGill-Queens Press, 1993, pp. 89-104.

Governments (provincial and federal) are greatly restricted from active industrial policies which regulate investment in order to influence where it is channelled and ensure that its citizens get a share of the employment and other benefits. Hence industrial policies to promote industrial diversification, domestic resource value added, regional development, and knowledge-intensive production, are severely curtailed. When the ability to shape competitive advantage is limited, there is a tendency to concentrate on existing advantage which, in the case of Canada, and to a lesser extent Ontario, is resource-based production and exports.

Key provisions in the NAFTA reproduce, expand and supersede the FTA provisions securing and enhancing the power of capital. It gives national treatment, i.e., that US corporations and investors must be treated the same by Canadian governments as domestically-owned corporations (e.g., articles 301, 1102, 1202, 1405, 1703). It grants corporations freedom from government-imposed performance requirements (article 1106, 1107); and freedom to repatriate dividends, royalties, and virtually all financial transfers (article 1109). It gives them freedom from discriminatory expropriation and adequate compensation for measures which interfere with their business in a way which is deemed to be "tantamount to expropriation" (article 1110). It grants freedom to move top management, professional and technical personnel around at will (chapter 16). Provisions ensuring compliance by sub-national governments (article 105) extend under NAFTA into new areas of provincial jurisdiction such as sanitary, phytosanitary and technical standards (chapters 7 and 9) and financial services (chapter 14). It entrenches corporate ownership of knowledge through extended periods of monopoly protection of patents and other intellectual property instruments (chapter 17). It limits the ability of government to impose standards which impede trade. It secures the freedom to transfer and process information across borders without interference (article 1407). It gives corporations freedom from encroachment on their turf by Crown corporations (articles 1502 and 1503). It contains powerful enforcement mechanisms ensuring the protection of corporate rights. For example, it has a new investor-state dispute mechanism which allows corporations to directly challenge government policies through a binding international arbitration process (articles 1115-37) and contains strong enforcement of intellectual property provisions (articles 1714-18). Finally, it contains a strengthened general nullification and impairment clause protecting against loss of rights or benefits caused by government measures unanticipated by the terms of this agreement (annex 2004).

Investment Diversion

Canada is a high wage, high tax, high regulatory cost jurisdiction in North America and, as such, is in many industries a less attractive production site. There is considerable empirical evidence that this new era of capital mobility has resulted in a diversion of investment (domestic and foreign) away from Canada, and that this will continue under NAFTA.

This evidence is summarized below:

- The Canadian business (non-residential) fixed capital investment growth rate slowed dramatically in the first three years of free trade, from an average annual rate of 9.9% during 1986-88 to 0.6% per year during 1989-91 according to Statistics Canada, National Accounts. In fact, after a spurt in 1989, the investment levels actually dropped in both 1990 and 1991. Furthermore, Statistics Canada's Survey of major business capital expenditures shows significant declines. For example, during 1989-91, capital expenditures fell 11.6% in textiles, 17.5% in the machinery sector, 32.3% in motor vehicle parts. On the other hand, capital expenditures grew 13.9% in the smelting and refining sector. Although cyclical factors account for part of this slowdown, there are many indicators of an underlying corporate restructuring.

- Changes in direct investment cross-border flows by US and Canadian investors reveal some interesting patterns. Canadians have been investing in the US at twice the rate that US investors have been investing in Canada under free trade. During 1989-91, US net foreign direct investment flows to Canada were $4.9 billion, while Canadian FDI net flows to the US were $8.6 billion. Another indicator of the exodus of Canadian equity capital is that, while US investors spent $1.1 billion purchasing Canadian stocks during 1989-91, Canadian investors spent $7.3 billion buying US stocks.[60]

---

[60] Statistics Canada, Balance of International Payments, First Quarter 1992.

- Although it is difficult to determine conclusively trends in US direct investment in Canada, there appears to be a shift away from Canada. There has not been a significant drop in net inflows of US direct investment for the period as a whole, compared to earlier periods. Inflows did drop dramatically in 1988, possibly in anticipation of the Canadian election result. There was actually a net outflow of US investment in 1989, despite a capital inflow brought on by a surge in takeovers of Canadian companies. But stronger net inflows resumed in 1990 and 1991.[61]

- Canada has been receiving a smaller share of total US direct investment, declining from 18.4% to 16.2 % during 1987-1990. This suggests the diversion of US direct investment flows to locations such as Mexico. In fact, US direct investment has surged into Mexico in the last two years, exceeding the total cumulative inflow for the previous 10 years. The net inflow of US corporate direct investment to Mexico in 1990 and 1991 was $US 4.7 billion, actually greater than the net US direct investment flows into Canada during this period of $US 4.4 billion. This is especially striking in light of the much smaller size of the Mexican economy.[62]

- There is evidence that aggregate net inflows are masking a shift of US investment, particularly in the manufacturing sector. Most dramatic has been the dismantling of the US-owned branch plant sector. For example, the Ontario Ministry of Labour documented 397 complete plant closures from 1989 to August 1992. Close to half were foreign-owned. Complete closures accounted for 65% of lay-offs during this period, compared to less than one-quarter during the 1981-82 recession.

- This shift of US and Canadian direct investment is supported by survey evidence. For example, the Wall Street Journal reported in August 1992 that "since the free trade treaty went into effect, between 400 and 700 Canadian businesses have set up shop in Buffalo. Moreover, a survey of 455 senior US corporate executives conducted for the Journal found that "about one-quarter of US executives say they are likely to make a capital investment in Canada in the next few years --

---

[61] Ibid.

[62] UN World Investment Report 1991, op. cit., US Department of Commerce, Survey of Current Business various, Banco Nacional de Mexico, Basic Statistics, 1991.

significantly fewer than the... (40%) targeting Mexico".[63] This is reinforced by a survey of 190 senior US executives by Cleveland Consulting Associates who believed overwhelmingly (71%) that Mexico would benefit most from NAFTA; 22% felt that the US would benefit most, and just 2% believed that Canada would be the big winner.[64]

- University of Montreal Professor Kimon Valaskakis, in a study for the Montreal Board of Trade, conducted in-depth interviews with 100 CEO's from Canadian and foreign-owned corporations. He concluded: "Not only are the losers closing their factories in Canada but many of the winners are, too. They are packing their bags and moving to the United States or Mexico. With the North American Free Trade Agreement, this trend is likely to continue."[65]

- A Conference Board survey (September 1992) of major US and Canadian owned manufacturing and resource corporations observed that the FTA was a central factor in changing corporate restructuring practices, and they anticipate that this trend, particularly relocation to the US, will intensify under NAFTA. As one respondent from a US subsidiary stated, "The driver in these changes will be free trade and the movement toward a single North American Market." The survey found that Canadian companies are concentrating on investment in the U.S. It also found that U.S-owned subsidiaries have been shutting down productive capacity in Canada. "In the emerging free trade environment...there is a continual re-evaluation of the need to stay in Canada." Respondents from Canadian-owned corporations said that the FTA, in forcing them to become more competitive, is drawing investment away from the higher cost Canadian manufacturing sector to the US market.[66]

- A 1992 survey by the American Management Association of 200 of its US-owned member companies (three quarters in manufacturing) that currently have affiliates in both Mexico and Canada found that they plan to expand employment in their Mexican operations by 13.7% on average in the next three years, 3.3% in their US operations and only 0.7% in their Canadian affiliates. Corporations with large Canadian subsidiaries (more than 100 employees) actually plan to reduce their Canadian workforce by 2%. The survey also found that manufacturing companies plan to increase investment spending by 15.5% in Mexico, 3.7% in the United States, and less than 1% in Canada in the next three years. Only 16% of the large Canadian affiliates, plan to increase spending. Three respondents actually planned to completely shut down their Canadian operation completely.

---

[63] Wall Street Journal, Sept. 21, 1992.

[64] Cited in Canadian Business Magazine, August 1992.

[65] Cited in Globe and Mail, October 31, 1992.

[66] S. Krajewski, "Intra-Firm Trade and the New North American Business Dynamic", Conference Board of Canada, September 1992, p. 7.

- Evidence indicates that Japanese investment in Canada is drying up and the FTA/NAFTA is held to be partially responsible. According to Japanese Ministry of Finance figures, Japanese direct investment in Canada jumped from $700 million in 1987 and 1988 to $1.4 billion in 1989, but declined to $300 million in 1992.[67] One report found that only one new Japanese company began operations in Canada in 1991, compared to 17 per year in the late 1980s.[68] According to Susumi Eto, president of Mitsubishi, "When Japanese investment rushed into Canada in the late 1980s, there was a general optimism that the free trade agreement would bring real 'free trade' across the border. This illusion burst when it was proved that the one sided protectionist action by the US suddenly changed the basic precondition of business activities here in Canada..." According to Eto, "There is a growing trend to thinking that Mexico may be the place to invest in North America."[69]

- A report by the U.S. Congressional Office of Technology Assessment found that "NAFTA could precipitate a significant diversion of US investment to Mexico [and] could lead to greater Asian and European investment in Mexico to serve the US market... [Consequently] with increased investment in Mexico and a large (over 20 million) and rapidly growing pool of less educated workers there, US employers will gain added leverage in their dealings with less educated US workers... Increasingly, employers will be able to use the threat of relocation to depress wages here."[70] There is good reason to suppose that the same factors will also result in a shift in investment from Canada.

---

[67] Cited D. Crane, Toronto Star, April 1, 1993.

[68] Cited Financial Post, October 9, 1990.

[69] Susumi Eto, Toronto Star, April 2, 1993.

- A 1991 study for the Federal Department of Finance by Western University Professor David Conklin, released under information access, found that many corporate managers are re-evaluating strategies in the face of the reality of "a single unified North American market...[where] manufacturing costs in Canada significantly exceed those in certain municipalities in the United States... Some managers point to the current recession as an additional stimulus to the development of a new North American strategy... Over the past few months, many executives have come to focus on the possible de-industrialization of Canada." The statement of an executive of EMCO Ltd. is revealing: "There are a lot of things you can do less expensively in the US...Those things are working against the Canadian economy, and what I look at is lop-sided in regard to investment attractiveness." He continues: "Some manufacturing companies have made a decision fairly easily after free trade to shut down Canadian activity and just use sales staff in the Canadian territory... Such a decision wouldn't have been made five years ago. I think this kind of decision will benefit everyone except the Canadian workforce."[71]

- According to a poll of 2033 senior business executives and company owners across Canada conducted by Dun and Bradstreet Canada for the Globe and Mail's Report on Business Magazine, 37.1% of interviewees surveyed thought that NAFTA would have a negative effect on Canada's economy in the 1990s while only 32.9% expected the deal to have a positive effect. Ontario business was even more pessimistic than the national average, with 42.9% of respondents predicting that NAFTA would have a negative economic effect.[72]

---

[70] U.S. Congressional Office of Technology Assessment, US-Mexico Trade: Pulling Together or Pulling Apart, Sept. 1992, p.7.

[71] David Conklin, The FTA and Ongoing Negotiations: Case Studies, mimeo, January 1991, p. 15.

[72] Globe and Mail, Report on Business Magazine, March 1993, p.13.

- In a study of 1600 small/medium-sized manufacturing business' responses in Canada, the U.S. and Mexico to free trade, for the Ottawa-based International Development Research Centre, Professor Del Castillo found that 52.4% of the Canadian firms expected investment to be lost under NAFTA. Furthermore, a large majority of Canadian companies (71.4%) anticipated job loss under NAFTA, and just 1.4% of the companies did not expect jobs to be lost under NAFTA.[73]

The above evidence supports the thesis that FTA/NAFTA encourages investment shifts from Canada since it is a high wage, high tax, high standards, location. One would also expect that the extent to which this "disadvantage" is offset is reflected in the extent to which Canadian workers and governments make concessions to cap and/or depress wages, taxes and standards. It is to this question that we now turn.

Standards Lowering Competition

The FTA/NAFTA locks in a deregulated trade and investment regime with no agreed-upon or enforceable social and environmental rules within which competition must take place. Different areas within the continental economic space vie for absolute cost advantages, resulting in a downward spiral of standards, wages, taxes, etc. (The Wall Street Journal poll of 455 senior US corporate executives cited earlier found that one-quarter of the respondents openly admitted that they would use NAFTA to bargain down wages). This is what business calls levelling the playing field, or what critics call "the race to the bottom."

The logic of Canadian-based business arguing that it now has to have a level playing field on which to compete has become very compelling; so, too, given its new mobility, are its threats to leave. The following not-so-veiled warning to the Ontario government on labour law reform by the president of Ford Canada is illustrative:

> Multinational companies such as Ford have many choices to consider before deciding where to assign production of new products. So before they introduce new legislation

---

[73] G. Del Castillo, Small and Mid-sized Manufacturing Firms in North America: How Goes Free Trade? A Summary of Research Findings. Presented at seminar at the International Development Resource Centre, Ottawa, June 23, 1993, mimeo, p. 10-11.

> governments should ask themselves this question: Will it encourage business confidence or is it likely to discourage investment?[74]

This not an idle threat. Ford has state-of-the-art, high-quality plants in Mexico, including one at Hermosillo that produces 165,000 Escort cars per year for export to the US and Canadian markets. Productivity and up time are both high at this plant and assembly time is low, below the average for North America. The plant employed 1,665 hourly paid workers in 1989. Total compensation per production worker per hour was US $ 2.00, compared to $US 30.00 in the United States (slightly less in Canada). This alone represents a labour cost saving of $US 672 per vehicle, which for 165,000 cars is $US 111 million. This does not include major cost savings accruing from the much lower wages paid to its 370 salaried employees.[75]

Under FTA/NAFTA, the penalties to Ford for not complying with the Canadian content conditions of the auto pact have greatly eroded. The Ontario government can offer incentives but it is playing a game with other jurisdictions that have deep pockets and have other regulatory cost advantages over Ontario. Ford is in a powerful bargaining position.

To adjust to this new reality, Canadian governments of all stripes, whether they want to or not, are under pressure to phase out many features that make the Canadian economy "uncompetitive." Aligning cost and regulatory structures often means lowering wages, weakening unions, watering down labour and environmental standards, lowering taxes, and squeezing social program spending.

Professor D.C. MacCharles, a strong free trade advocate, graphically describes what this means for unions:

> ... the threat of job loss due to increased competition may make union-management relations more cooperative... With some luck governments will also respond and adapt their labour codes to allow for right-to-work laws and other measures which will

---

[74] Globe and Mail, November 5, 1992.

[75] See Shaiken, op. cit., pp. 21-44.

reduce the high degree of rigidity in Canadian labour markets.[76]

Under the NAFTA conditions described above, corporate decisions about where to locate can focus almost exclusively on an array of cost factors: environmental laws and standards, workplace health and safety standards, wages and benefits (especially in relation to productivity), labour laws and standards, education levels, labour turnover, physical infrastructure, proximity to major markets, vulnerability to trade harassment, taxes, government incentives, real capital costs, and political stability (which in the case of Mexico is perceived to be enhanced under NAFTA), and so forth.

To the extent that environmental laws and regulations constitute a cost for corporations that produce in a given jurisdiction, especially if these coexist with a cluster of adverse cost factors, and to the extent that it becomes much easier under FTA/NAFTA for a given corporation to move production or shift new investment to a jurisdiction on the continent where environmental compliance costs are lower and sell back into that market with impunity, environmental costs are an important component of the overall decision-making about where to locate investment. This point is conceded by NAFTA supporter, Peter Morici, who acknowledges that "lax enforcement in the maquiladora region, to the extent that it affects the distribution of investment and employment in the United States and Canada, undermines overall living standards throughout North America. Without an improvement in maquiladora workplace and environmental compliance, free trade would only exacerbate these effects."[77]

According to World Bank economists Daly and Goodland, "a country which internalizes environmental costs into its prices will be at a disadvantage, at least in the short term, in unregulated trade with a country that does not internalize environmental costs."[78] Environmental dumping occurs when a company brings products into the Canadian market from a country that permits production practices which do not meet internationally recognized minimum health and safety standards in the workplace, or practices which cause gross levels of pollution. Many analysts contend that international law should explicitly recognize that these practices constitute illegal government subsidies to exporters and as such should be subject to countervailing tariff action by the importing country.[79]

---

[76] Toronto Business, October 1989.

[77] Peter Morici, "Implications of a Social Charter for the North American Free Trade Agreement" in J. Lemco and W. Robson eds., Ties Beyond Trade, C.D. Howe Institute, 1993, p. 148.

[78] Daly and Goodland, 1992, op. cit., p. 7.

There is much evidence that jurisdictions with lax environmental standards or enforcement are a magnet for certain companies and industries to avoid the cost of compliance with tougher regulation. This is particularly true where these conditions exist jointly with a cluster of other "competitive advantages" such as low wages, low labour standards, etc. It is also more evident in regions where national economies are becoming more highly integrated, such as the European Community and North America. There is much controversy surrounding this issue. Many North American economists who believe that any environmental measure is a cover for protectionism deny any significant causal relationship between lax environmental standards or enforcement and the location of certain production facilities.[80]

A recent Conference Board study acknowledged the existence of this phenomenon, but added that its importance varies from industry to industry.

> Stricter regulation, if it implies substantial compliance costs, may lead to market share losses in domestic markets (to imports) as well as in world markets. On the other hand, weak rules, the failure to regulate, can be considered the equivalent of providing a subsidy to domestic firms because they can adopt processes drawing more heavily on the natural environment... Potentially, such competitiveness impacts could be significant enough to affect investment decisions and induce relocation of production facilities to more permissive jurisdictions. The importance of this effect has been very industry-specific so far: it has been more prevalent in the forestry and manufacturing sectors than in the mining industry, for example.[81]

---

[79] See for example Christine Ellwell in Canadian Centre for Policy Alternatives, The Enterprise for the Americas Initiative, Implications for Canada and British Columbia: Trade and Investment Alternatives, February 1992 (draft).

[80] See for example, J. Dean, "Trade and the Environment: A Survey of the Literature" in P. Low (ed.), International Trade and the Environment, World Bank Discussion Paper 159, 1992.

[81] Conference Board of Canada, Impact of Environmental Measures on International Trade, 1992, pp. 3-4.

In the European Community there is a greater realism in the discussion of this issue, both in acknowledging its importance and in policy responses. The reaction, for example, of the Federal Association of German Industry to the fact that "the advent of the Single European Market will lower the cost of moving factors and of trading goods such that differences in production costs due to environmental policies will increase the pressure to relocate firms or to lose market shares otherwise has been to advocate a harmonization of environmental standards throughout the EC in order to eliminate these competitive disadvantages. It also favours giving more regulatory power to the EC in environmental matters in the hope that this will also harmonize environmental standards."[82] According to Klepper, this view is shared by most German labour unions and environmentalists.

A 1991 report of the United Nations Conference on Trade and Development (UNCTAD) warned that changing patterns of industrialization between developed and developing countries could result in a process where the latter are encouraged to specialize in "dirty industries," and suggests that this might already be happening in mineral and metal sectors.[83]A June 1992 report by Information Research Ltd. found that refined copper production in the third world grew by 33% in the 1980s compared with only 13% in the industrial world. The third world's share of global aluminum production grew from 14% to 35% during 1980-90.[84] Low found that a group of 48 Mexican goods exported to the United States from what he identified as "dirty industries" increased at an average rate of 9 percent per year during the 1980s, compared with 3 percent per year for all commodities. Low concludes: "The trade data show that Mexico's export earnings are not overly dependent on pollution-intensive products, which account for a little over one-tenth of total exports. On the other hand, pollution-intensive exports have grown considerably faster than total exports during this period."[85]

---

[82] G. Klepper, "The Political Economy of Trade and the Environment in Western Europe" in Low (ed.), op. cit., p. 252.

[83] UN Conference on Trade Development (UNCTAD, Environmental and International Trade, July 1991.

[84] Cited in Hilary French, Costly Tradeoffs: Reconciling Trade and the Environment, World Watch Paper 113, March 1993, p. 18.

An analysis of the environmental impact of NAFTA on the United States by Grossman and Krueger (1992) concluded that environmental costs were not a significant motivating factor for most US firms that produce in Mexico for the US market.[86] This study has been widely cited as the basis for the claim that free trade makes countries richer and rich countries pollute less--and hence that NAFTA is good for the environment. Their results showed that average pollution abatement costs equalled 1.38% of total manufacturing value added, rising to 4.85% with some firms. (The US Census Bureau estimates that while these costs averaged just over one percent of value added for 400 industries, they were much higher than Grossman's estimate for some sectors. For example they were 22% for copper smelting, 9% for oil refining and 75% for steel production).[87]

Lee's critique of the Grossman paper (1992) points out that average after-tax manufacturing profits were only 4% of sales in 1990, suggesting that many firms would jump at the opportunity of those kinds of savings. Secondly, she argues that comparing pollution abatement costs to value added greatly understates the importance of environmental costs and suggests that the more relevant ratio should be in relation to capital costs, since this tends to be a "key decision-making moment for firms as they either initiate or expand production."[88] Moreover, their importance is magnified when they exist together with clusters of unfavourable environmental cost factors not accounted for in their study, such as lax health and safety standards, low workers' compensation premiums, etc.

Thirdly, Grossman and Krueger do not ask the more important question: "Once firms move to Mexico, do they pollute more or less than when they operated in the US (or Canada) and hence is there an aggregate increase in continental pollution, regardless of the reason firms choose to move?"

---

[85] P. Low, "Trade Measures and Environmental Quality: The Implications for Mexico's Exports" in Low (ed.), op. cit., 1992, p. 108.

[86] Grossman and Krueger, 1991, op. cit.

[87] French, op. cit., 1993, p. 30.

[88] Thea Lee, Comments on G. Grossman and A. Krueger "Environmental Impacts of a North American Free Trade Agreement", mimeo, May 1992, p. 7.

Finally, Lee notes that Grossman and Krueger's model explains little of the variation in US import ratios and is therefore unable to capture the key determinants of changes in US imports from Mexico.

It should also be said that, whether or not a significant measurable link can be established between costly environmental regulation and shifting of corporate investment, industry lobbyists often argue against the imposition of new legislation, or for the reduction of existing regulations in terms of cost competitiveness and the threat of relocation, and legislators often respond accordingly to these appeals. It begs the question why so many corporate resources are devoted to stopping environmental regulations if these regulations really have a negligible effect on decisions to relocate.

Grossman's and Krueger's results are also contradicted by survey research. For example, interviews by Professor Roberto Sanchez of the Colegio de la Frontera Norte in the maquiladora city of Mexicali indicated that weak environmental regulation or lax enforcement was an important factor for 26% of U.S. companies which decided to move there.[89]

According to Sanchez, "Ten percent of surveyed maquiladoras in Mexicali considered environmental regulations to be among the main factors in the decision to leave the United States, and 17 percent considered it a factor of importance. On the selection of Mexicali, almost 13 percent of the maquiladoras considered weaker environmental legislation in Mexico a main factor for relocation and another 13 percent considered it a factor of importance."[90]

The hands-off Mexican government approach to environmental protection and worker health and safety has made it a magnet for US business. The Texas Economic Commission, for example, has used this as a selling point to attract industry to the maquiladoras. "Government control is minimal; for example, there are no stiff prohibitions such as in the United States with respect to air quality, etc."[91] A 1983 US-Mexico treaty required that all companies that import chemicals into Mexico ship the resulting hazardous wastes back to the United States for disposal. But US environmental Protection Agency records showed that in 1988 only 20 of 1600 maquiladoras actually returned their waste.[92] Three quarters of the maquiladoras surveyed by the US National Toxics Campaign in 1991 dumped toxic chemicals directly into open ditches running through adjacent communities.[93]

---

[89] Roberto Sanchez, "Health and Environmental Risks of the Maquiladora in Mexicali", Natural Resources Journal 163, Winter 1990.

[90] Sanchez, 1990, op. cit., p. 185.

A well-known case of the flight of dirty industry is the California furniture industry. Companies have fled across the border to Tijuana in the maquiladora zone (and to other less stringent jurisdictions in the United States) in order to escape a 1988 California state law that imposed strict environmental controls on the release of fumes from solvent-based paints, stains and lacquers. Furniture and woodworking have become the second largest sector (accounting for 22% of all plants) after electronics in this maquiladora centre. Surveys found that 78% of furniture companies that moved to Mexico cited "stringent air pollution emission control standards for paint coatings and solvents as a reason for moving".[94] In Mexico they also cite lower wages (one-quarter of those in Southern California), lower real estate costs, and avoidance of California's workers' compensation premiums and workplace health and safety standards.[95] Ironically, much of the pollution that the California law sought to eliminate still goes into the atmosphere down the road. Mexican workers are endangering their health through exposure to cancer-causing chemicals, American workers have lost their jobs, and California is under pressure to relax its environmental standards.

A Mexican government official was cited in a US International Trade Commission report (March 1990) as saying that Mexico does not want industries that pollute, "but we must remain competitive, that's why we don't push environmental enforcement."[96] To visit the maquiladora is to realize that the area is an environmental disaster zone, or as the American Medical Association called the border region, "a virtual cesspool." The Mexican ambassador to Washington stated in a letter to Congressman Gephardt: "In 1989 only 6% of the Northern border assembly facilities complied with their environmental operating licences."[97] The Salinas government has taken steps, beginning in 1989, to strengthen environmental enforcement measures. However, an August 1992 study by the General Accounting office of the US Congress on the effectiveness of Mexican environmental controls found that, despite substantial increases in funding and staffing, none of the spot sample of six new US-owned maquiladora plants established between May 1990 and July 1991 had complied with new Mexican environmental requirements.[98] The fact that noncompliance is widespread and is not confined to US corporations was confirmed by a senior Mexican environmental official.[99]

---

[91] Cited in L. Kochan, The Maquiladoras and Toxics, AFL-CIO 1989, p. 2.
Also see H.J. Leonard, Pollution and the Struggle for the World Product, Cambridge University Press, 1988.

[92] Development GAP, Look Before You Leap, 1991, p. 5.

[93] French, 1993, op. cit., p. 32.

[94] New York Times, August 5, 1991.

[95] Los Angeles Times, May 18, 1990.

NAFTA article 1114 purports to deal with the so-called pollution haven problem. It states: "It is inappropriate to encourage investment by relaxing domestic health, safety or environmental measures. Accordingly, a Party should not waive or otherwise derogate from such measures..." But this is a soft provision which has no enforcement capability. It is not a prohibition. It has no sanctions for violators. Violations do not trigger a formal dispute resolution process but rather only a consultation. Furthermore, it does not address the most pressing problem, which is the lax enforcement of existing standards. Nor does it provide any protection to a jurisdiction that, by tightening its standards relative to other jurisdictions, puts itself at a competitive disadvantage. A Conference Board report wondered "how those provisions would succeed in stopping investment from following the path of least environmental resistance".[100]

---

[96] Cited in AFL-CIO, Exploiting Both Sides, February 1991, p.7.

[97] Cited in Inside US Trade, July 10, 1990.

[98] US General Accounting Office, US-Mexico Trade, Assessment of Mexico's Environmental Controls for New Companies, August 1992, p. 3.

[99] Ibid. p. 13.

[100] S. Loizides and G. Rhéaume, The North American Free Trade Agreement, Conference Board of Canada, Report 9901993, p. 15.

William Reilly, head of the US Environmental Protection Agency, in testimony before the House Ways and Means Committee admitted that the remedies for violation of article 1114 were only consultative.[101] This is in stark contrast to the strong investor rights enforcement mechanisms in the Agreement. Similarly, Canadian Environment Minister Charest admitted that the most effective environmental enforcement tool in NAFTA was public opinion and the market.[102]

Reilly provided a clue to the real reason the US government did not want strong environmental enforcement measures put into the agreement in testimony before the Senate Trade Sub-Committee of the Finance committee the following day. He stated:

> I received 300 or more letters from members of Congress with respect to leaking underground storage tanks and the need to find a way to defer the application of strict standards and accommodate the financing needs of people affected by those requirements... We did in fact grant a deferral of time. **Under a treaty that includes a mechanism to question derogations from environmental laws or regulations that create an economic advantage it would be pretty hard to say we didn't create an economic advantage; that's why we did it. Do we want to subject decisions of that sort ...to the kind of procedures that would allow Mexico or Canada to say, 'No that's not legitimate; that's creating an economic advantage at the expense of the environment.'**[103]

There has been little research on the effect of pollution havens on Canada. One study conducted by Hickling Management Consultants for the Ontario government in 1990 sought to determine whether provincial policies to deal with hazardous emissions, specifically the Municipal-Industrial Strategy for Abatement, might cause Ontario companies to "lose market share, move elsewhere, or cancel expansion plans for their Ontario operations."[104] It did this in part by comparing the proposed regulations and enforcement with 13 US government jurisdictions, including the federal government. It found that these jurisdictions had for the previous 10 years generally more stringent regulations and less government incentives for environment-related investments, giving "Ontario companies, if anything, a competitive advantage over their counterparts in the United States."[105] It concluded that public pressure for upward convergence of environmental regulations would likely prevent any one jurisdiction from gaining a competitive advantage from lower environmental regulation. It can be inferred from the study, however, that any government which jumps ahead in terms of environmental regulation risks reduced competitiveness, especially if other "adverse" cost factors are also present. Furthermore, to assume that under NAFTA this upward convergence would continue, especially in a period of economic restructuring and recession, constitutes a leap of faith. As we have argued, the more likely scenario is a downward convergence of environmental standards.

---

[101] William Reilly, testimony before House Ways and Means Committee, September 15, 1992, transcript.

[102] Cited Ottawa Citizen, November 4, 1992.

[103] W. Reilly, testimony before the International Trade Subcommittee of the Senate Finance Committee, Sept. 16, 1992, transcript.

[104] James Hickling Management Consultants Ltd., The Regulation of Industrial Toxic and Hazardous Emissions in Ontario as Compared with Selected Jurisdictions, January 1990. Cited in Canadian Labour Market Productivity Centre, Environmental Protection and Jobs in Canada: A Discussion Paper for Business and Labour, January 1992, pp. 87-88.

A report by the New York-based Americas Society on changing corporate practices of Canadian subsidiaries of US-owned corporations found that a large majority (65%) of companies surveyed believed the FTA and NAFTA to be the key factor driving their restructuring strategies. The study also identified three major factors working against Canada as a manufacturing location. One of those is described thus: "Subsidiaries expressed pessimism about Canada's climate for business. Labor legislation and environmental standards also are perceived as threats to the ability of U.S. subsidiaries to continue producing in Canada."[106]

This is reinforced by anecdotal evidence that Canadian business has been putting pressure on governments to relax, or not tighten, standards to ensure a free trade level playing field. Ontario business successfully pressured the Peterson government to withdraw proposed higher standards in the Ontario Health and Safety Act (Bill 208). The changes were widely opposed by business. The response of Ross Dunsmore of the Metro Toronto Board of Trade was typical: "(With free trade) we have to compare the cost of doing business here with Buffalo or Georgia. The more impositions the government makes ...the more it will cost and the more companies will be pushed to the United States."[107] The Canadian Auto Parts Manufacturers Association has cited stringent Ontario workplace health and safety laws as one cause of their decreasing competitiveness.[108] Similarly, the Winnipeg Chamber of Commerce in 1989 proposed (unsuccessfully) several measures to weaken Manitoba's health and safety laws, including provisions which would eliminate the zero tolerance standard for exposure to carcinogenic chemicals in the workplace. One of the arguments to support their action was the need to be competitive with lower US threshold levels.[109]

---

[105] ibid.

[106] S. Krajewski, Adjusting to the New North American Competitive Dynamic: The Experience of US Subsidiaries in Canada, Americas Society, Working Paper No. 2, January 1993, p. 8. The study was based on an extensive survey of 23 corporations.

Data compiled by the Canadian Centre for Policy Alternatives on the relocation of Ontario manufacturing production to locations outside Canada, primarily to the US and Mexico (see Appendix B) indicate that, in cases where a relocation to the US occurred and where the state was specified, close to half went to southern states generally considered to have lower wages, low unionization, and less stringent environmental and health and safety standards.

Business reaction to proposals by an Ontario Ministry of Labour bipartite task force to tighten exposure limits for 101 hazardous substances in the workplace provides the most recent example of pressure on governments to cap environmental standards under free trade. The proposed changes, made public in August 1992, are based on exposure limits in five European jurisdictions, Britain, Germany, Sweden, Norway and the Netherlands, chosen in part because they were arrived at through the process of labour-management consultations. The proposed limits represent the lowest exposure in one or more of these jurisdictions.

Business briefs submitted to the task force have been overwhelmingly negative regarding the compliance costs associated with these proposed measures, and often include direct threats to relocate production to the more friendly US and other provincial jurisdictions. Except for avoiding specific references to the FTA/NAFTA the briefs are remarkably frank as the following examples demonstrate.[110]

---

[107] Cited in Toronto Star, November 11, 1990.

[108] S. Van Houten, cited in Toronto Star, May 25, 1989.

[109] Cited in, CLC Briefing Document, Canadian Labour Congress, Sept. 1989.

- The Oregon Chainsaw Division of US-owned Blount Canada Inc. employs 700 at a facility in Guelph. The company brief states that the added manufacturing costs associated with only three of the proposed new limits "would lower Blount Canada's competitive position in the world chain saw market resulting in lower gains. Blount Inc. may decide to move the Canadian operation to Portland Oregon to lower costs."

- For 3M Canada Inc. the added cost (estimated at $ one million) of lowering n-Hexane exposure limits "are directly reflected in product costs. Health and safety standards must have scientific validity and be consistent within major trading boundaries. Implementation of the proposed lower limits could have a very negative effect on expansion potential or future investment in the province."

- The Canadian Paints and Coatings Association brief points out that "none of the five countries (on which the proposed changes are based) is Canada's, and hence Ontario's, major trading partner, nor major competitor which is the United States. Hence Ontario will likely be placed at a strong negative competitive disadvantage should the levels be set arbitrarily lower than those imposed upon industries in the US."

- According to the Society of the Plastics Industry of Canada, the compliance cost to the fibreglass reinforce plastics industry associated with lowering the threshold for one chemical, styrene, could result in the closure of 66 facilities and the loss of 1925 jobs. It says that the situation could become even worse given the looser restrictions in Quebec and US states, adding that "some of the large companies have recently set up operations south of the border and if additional threats to their business in Ontario arise, the decision to move to the United States would be the popular choice."

- Canadian-owned disc-brake lining maker, Hemispheres International, warns that if the proposed asbestos exposure limits go ahead, "In view of the current economic times in Ontario and the heavy burden of competition outside Canada ... We will be forced to shut down completely or we will relocate outside of Ontario."

---

[110] Briefs were submitted to the Occupational Exposure Limits Task Force, Joint Steering Committee on Hazardous Substances in the Workplace, Secretariat, Ontario Ministry of Labour, between December 1992 and April 1993.

- Finally, Reichold Chemicals of North Carolina warns that it would be unlikely to make the necessary expenditures to meet the proposed styrene thresholds. "For companies currently manufacturing in Ontario there are options available should they wish to avoid the costs of compliance. Relocating to Quebec or the US, contracting out production to out-of-province shops, and simply ceasing production are all options. Companies or individuals contemplating entry into the composites manufacturing business would have the options of looking elsewhere or simply not starting up production ... Should the Ontario market for styrenated polyester resins suffer a further massive decline, either due to the proposed 20 ppm OEL (occupational exposure limit) or for any other reason, the future of all Reichold employees in Ontario supplying in this market would be in doubt ... any review of the current 50 ppm OEL for styrene in Ontario should be conducted with a view to raising it to 100 ppm ... (in line with US and Quebec thresholds)".

Intellectual property

The Alternative Treaty on Trade and Sustainable Development, worked out by representatives of the world NGO community in parallel to the Earth Summit in Rio de Janeiro in June 1992, stated the following on intellectual property:

> **In order to address the issues of intellectual property while preserving the rights of traditional societies using non-patentable living resources, all patenting of biological life forms should be halted.**
>
> **Trade mechanisms that reduce or restrict the free flow of ideas and technologies necessary for the protection of health must be eliminated.**
>
> **Mechanisms such as compulsory licensing ensure nations' rights to use products with**

> **broad social value. These rights must not be compromised by... any [trade] negotiations.**[111]

Unlike the FTA, NAFTA contains a comprehensive intellectual property chapter. Although the Canadian negotiators during the FTA round made major concessions in specific areas (some, like drug patents, were made through informal side agreements, while others like copyright on retransmission of television signals were dealt with formally in the agreement), they balked at enshrining intellectual property protection in the FTA agreement. NAFTA achieves a major US bargaining objective and is an important gain for US pharmaceutical and biotech corporations. Specifically, it prohibits the compulsory licensing of drug patents and expands firms' ability to patent life forms. Ironically, this chapter is contrary to the deregulation thrust (although consistent with the protection of corporate rights) which permeates the agreement.

The provisions dealing with the compulsory licensing of pharmaceutical patents basically end the practice of licensing generic copies of brand-name drugs. NAFTA reproduces Bill C-91 which the Conservative government introduced in Parliament early in 1992 in anticipation that an intellectual property code would be part of NAFTA. It extends monopoly patent protection to a full 20 years from the existing 10, and prohibits the issuing of compulsory licences for generics unless the drug patent holder is convicted of an abuse of its monopoly power (article 1709).

The ending of compulsory licensing will cost consumers $500 million to $1 billion per year, depending on the estimate. The Ontario Minister of Health estimated that this will cost the provincial drug plan $80-100 million a year.[112] Because Canada is a technology importer (95% of patents taken out in Canada are owned abroad), these changes will increase the financial outflow of royalty payments to foreign patent holders. They damage the Canadian-owned Ontario-centred generic drug industry, and more generally they remove an important policy tool to transfer technology and develop indigenous technological capacity and industrial diversification in Ontario.

---

[111] Alternative Treaty on Trade and Sustainable Development, Final Text, June 9, 1992, Active Negotiators of Trade Work Group, NGOs International Forum, Rio de Janeiro, (7).

[112] cited Globe & Mail, June 23, 1992.

The locking-in of these provisions in NAFTA amounts to a "constitutionalization" (if NAFTA is approved) in that future governments will not be able to reverse Bill C-91 without abrogating the entire NAFTA agreement.

The intellectual property chapter is a good example of how the transnational pharmaceutical corporations have been able, through the US government, to use trade agreements as a wedge to incrementally achieve their objectives.[113] They succeeded first in eroding the Canadian compulsory licensing of drug patents by making the passage of Canadian legislation (Bill C-22), one of the informal conditions of the US signing the original free trade deal in 1987. They made further gains at GATT by ensuring that an intellectual property code would be part of any final Uruguay Round agreement. The proposed GATT legislation as reflected in the so-called Dunkel Draft in turn was extended and strengthened in an intellectual property chapter agreed to in the NAFTA.

The US Pharmaceutical Manufacturers Association was the first major industry association to endorse NAFTA, which they see as going beyond the GATT proposals and locking in Mexican and Canadian legislation. It also means that, because the NAFTA intellectual property code is the prototype for a western hemispheric trade agreement envisaged in the Enterprise for the Americas Initiative, these requirements will apply as basic minimum to other countries which become members. Adhering to the NAFTA intellectual property laws will have major adverse financial, health and technology transfer implications for Latin American and Caribbean nations, just as they have for Canada.

Another key part in the intellectual property chapter advances the right of corporations to patent life forms. Although countries "may exclude" certain life forms from patentability (article 1709.3), "including plants and animals other than micro-organisms and essentially biological processes for the production of plants or animals other than non-biological and microbiological processes for such production", they are still free to implement more patent protection (article 1702) if they wish.

Moreover, countries are required to protect plant varieties, either through patents or through plant breeders' rights legislation which, while not conferring ownership, grants monopoly rights over marketing of seeds (article 1709.4). In addition, each country is required to sign the International Convention for the Protection of New Varieties of Plants (UPOV) (article 1701.2.d) which goes beyond plant breeders rights requirement because it confers ownership of the germsplasm.

---

[113] See L. McQuaig, The Quick and the Dead: Brian Mulroney, Big Business and the Seduction of Canada, Viking, 1991.

This requirement undermines the apparent right to exclude plants from patentability described above and, as farm advocate Pat Mooney describes, will not stop the biotechnology industry from incrementally achieving their ends, by first seeking patents on micro-organisms, then plants and animals, and ultimately on human body parts.[114] The leading biotech companies are also the major pharmaceutical manufacturers and the dominant seed and pesticide companies. Their research focuses on developing pesticide-resistant plant varieties rather than pest-resistant plants which would obviate the need for pesticides.

Most of the genetic material from which new plant and animal varieties are derived comes from the third world. Patent law treats this as common heritage and the indigenous peoples who are the curators of these genetic resources are denied any royalties. But once appropriated by biotechnology companies it becomes private property and these peoples must pay royalties on the derived seeds and medicines.

Life form patenting will require farmers to pay royalties for every seed they plant from patented stock, and force them to become more dependent on fertilizers, pesticides, herbicides, and machinery made by the same companies that collected the traditional seeds in the first place, which now sell back their chemically dependent derivatives.[115] In the words of a US analysis, "NAFTA reflects a decision that trade will industrialize biology and make biological diversity, even the survival of organisms, a matter of privately held intellectual property."[116]

---

[114] Pat Mooney, "GATTLORE", Lifeforce, Rural Advancement Foundation International, August, 1990, p. 3-4. Cited in J. Dillon, "Intellectual Property" in Which Way for the Americas: An Analysis of NAFTA, Canadian Centre for Policy Alternatives, December 1992, p. 39-40.

[115] Ibid.

This is what the NAFTA entrenches -- an intellectual property code that is clearly contrary to fundamental principles of sustainable development.

Energy, and Other Resources

The FTA provisions governing energy and other resources are basically replicated in the NAFTA, insofar as Canada is concerned.

Governments are given explicit approval to subsidize oil and gas exploration and development (article 608.2), reproducing the FTA. But they are prevented from ensuring that Canadian taxpayers can benefit from these subsidies, or that prices reflect the real environmental cost of depleting a non-renewable resource, or that the price of exports reflects the cost of replenishing Canada's reserve base, i.e., generates sufficient revenues to recoup the investment. For example, not only are conventional oil reserves less risky environmentally than the potentially damaging effects of frontier and offshore sources, but the latter are financially much more costly to retrieve. However, NAFTA mandates that export prices be "market" determined not by the cost of production. Thus, as conventional Canadian oil reserves are depleted while exports continue, the Canadian taxpayer will end up subsidizing the US consumer because companies receive government assistance for oil prospecting, development and infrastructure costs and because the environmental costs are left for future generations to pay.

Articles 603 and 604 preclude the use of export quotas, minimum prices or export taxes for both Canada and Mexico, reproducing FTA provisions. Article 606.2 is supposed to prevent US regulatory bodies, such as the Federal Energy Regulatory Commission (FERC) or the California Public Utilities Board, from unilaterally breaking long-term energy contracts, thereby depressing Canadian export prices. However, the wording is weak and officials have admitted that it may not be effective.

---

[116] U.S. Citizens Analysis of the North American Free Trade Agreement, mimeo, December 1992, p. 50.

Meanwhile, FTA restrictions have reduced the National Energy Board to a monitoring agency, rendering it powerless to ensure that national needs can be met before permitting exports.[117]

Energy development subsidies are the only ones besides military subsidies explicitly permitted by NAFTA. Environmental subsidies to assist pollution abatement activity or to promote green technology are subject to challenge as unfair subsidies. Furthermore, the promise of an eventual code of permissible subsidies, which was part of the FTA, has been removed from the NAFTA.

The "FTA proportional sharing" clause is reproduced in the NAFTA (articles 605 and 315), but only for Canada. Mexico is exempted. Thus Canada is required to reduce exports in times of national shortage only in the same proportion that it reduces overall production. Canada has only 9.5 years of conventional oil reserves at current rates of extraction and market prices (excluding tar sands) and 19.8 years of conventional reserves of natural gas, excluding frontier resources not yet connected by natural gas pipeline. (Official US oil reserves will last only 9 years and its gas reserves only 7 years.)[118] Mexico's exemption from proportional sharing should not be overstated, given that it is still prevented by NAFTA restrictions on exports taxes, etc., from regulating exports. Moreover, with only about 7 years of known reserves, Mexico requires major investment to develop offshore potential.[119]

The important point is that market-driven criteria for resource allocation which are entrenched in the NAFTA permit the depletion of both Canada's and Mexico's resources faster than would otherwise be the case. Moreover, price/cost competition between Mexican and Canadian suppliers to the US market could well exert downward pressure on environmental review requirements and procedures for energy and other resources. NAFTA reduces the power of provincial governments to manage and conserve resources.

---

[117] See S. Shrybman, "Trading Away the Environment" in Grinspun and Cameron (eds.), op.cit. 1993, pp. 274-75.

[118] J. Dillon, "The Petroleum Sector Under Continental Integration", in Grinspun and Cameron (eds.), 1993, op.cit., p. 324. Projections are from the National Energy Board as at the end of 1989.

[119] ibid., p. 328.

Exemptions to the deregulation of resource exports such as the Canadian ban on exports of raw logs, have been reproduced in the NAFTA. However, even these are of questionable value. Despite the removal of the FTA commitment to negotiate a common code of acceptable subsidy practices, the US government based its most recent countervail against Canadian softwood lumber exports in large part on the allegation that the raw log export ban is an unfair subsidy, and therefore countervailable (see Chapter Seven).

Water

As with the FTA, water is defined as a good like any other because of its inclusion in the NAFTA tariff schedule (22.01). The definition of water extends beyond the purported "bottled water," to include large-scale water diversions. As such, water is subject to all the provisions of NAFTA, all the limitations implied by export tax prohibitions and other resource management restrictions discussed above, and all the investment provisions. Although the federal government may insert an exclusion in its implementing legislation and provinces may also legislate similar exclusions, both of these would be meaningless if challenged in a trade dispute -- firstly, since provinces are subject to a compliance clause (NAFTA Article 105); and secondly, since NAFTA as an international agreement prevails over national legislation, in the event of a dispute.

One way to allow for regulation of water exports would have been to include the agreement itself, just like the exemption for the prohibition on the export of unprocessed East Coast fish and raw logs (though even this is challengeable). Canadian negotiators did not do this in the FTA. They had a second chance to do this in the NAFTA. They did not. Therefore, once a provincial government allows a diversion of water to the US, it cannot reverse its decision. Once the tap is turned on, it will be impossible to turn it off.

Advocates of large-scale water exports, from Simon Reisman to Robert Bourassa, have long recognized the necessity of a formal regime of economic rules like those in the FTA/NAFTA. Mexican resource economist, Roberto Salinas Leon, echoes this view:

> ... NAFTA ... increases the probability of contemplating a continental model of water trading to ameliorate Mexico's water problems ... An all important implication of open commerce and free trade is the salutory effect for an efficient resource allocation and use among the member countries which conprise the regional trade bloc.[120]

Making water a tradable good just like any other subject to laissez-faire market rules, is contrary to principles of sustainable development. Making sure water stays in Canada is also vital for agricultural and industrial policies designed to increase Canadian value added production. As Holm and Gutstein point out, Canada should be at the forefront of developing environmental technology to deal with water scarcity, which then can be exported to the US and Mexico, rather than simply permitting others easy access to our water, as has happened historically with other resources. [121]

Fiscal capacity

The impact of FTA/NAFTA on governments' fiscal capacity is substantial though largely indirect. As mentioned earlier, the enhanced ability of large corporations (foreign and domestically owned) to shift investment, transfer production facilities, and transfer profits through intra-corporate transfer pricing, interest, retained earnings, dividends, etc., within the continental economic space, imposes ceilings on corporate taxation, and generates pressure on governments to keep taxes in line with the lowest common denominator regime in the region.[122]

The FTA/NAFTA provisions on services reinforce global trends toward increased tradability of services and the larger role of information as a cost of production. This portends more external sourcing of production inputs and intra-corporate trade. These developments increase the opportunities for tax avoidance and corporate investment shifts, and put additional pressure on Ontario tax regimes to be more sensitive to other jurisdictions on the continent. NAFTA lifts restrictions on cross border information flows for financial service providers (article 1407) and constrains similar restrictions in other industries.

---

[120] R. Salinas León, "Water and North American Free Trade: Problems and Prospects for a Viable Water Market in Mexico", in J.E. Windsor (ed.) Water Export: Should Water be for Sale? Canada Water Resources Assoc., 1992, cited J. Linton, Rawson Academy of Aquatic Sciences, brief to Ontario Cabinet Committee hearings on NAFTA, April 1993, p. 5.

[121] Wendy Holm and Donald Gutstein, "Drink Canada Dry" in J. Sinclair (ed.), Crossing the Line, New Star 1992, pp. 85-92.

[122] It should be noted that the corporation tax share of Ontario government revenues declined from 11.5% in 1989-90 to 7.8% in 1992-93. Overall revenues dropped from $41.2 billion in 1989-90 to 40.7 billion in 1991-92. Meanwhile expenditures soared by $10 billion largely the consequence of assistance to victims of the cyclical and structural changes to the Ontario economy; see 1993 Ontario Budget.

Furthermore, FTA/NAFTA gives corporations increased power to play one jurisdiction off against another to obtain generous tax incentives as a condition for locating new production or maintaining existing production. This could constitute a significant additional drain on provincial and federal resources. As mentioned earlier, NAFTA withdraws the FTA commitment to negotiate a common code of allowable and prohibited subsidies that might constrain the competition for TNC investment.

On the other hand, new tax incentives to stimulate the economy must respect NAFTA's national treatment provisions -- that is, they must not (with limited exceptions) discriminate against foreign-owned companies. Treating foreign firms the same as domestic ones is less effective in meeting policy goals since foreign controlled corporations tend to have a lower employment-creating propensity, higher import propensity and weaker linkage effects to the rest of the economy than domestically-controlled corporations.[123] The removal of practically all performance requirements under NAFTA (article 1106) will exacerbate this situation.

The temporary entry provisions of the FTA/NAFTA give new freedom to the "knowledge workers" (entrepreneurs, executives, professionals and certain technicians) to move across borders to sell their services and perhaps emigrate. This puts downward pressure on personal income tax rates in the higher brackets.

---

[123] There is a huge literature on this subject going back almost 40 years. Two notable federal government reports were: Foreign Ownership and the Structure of Canadian Industry, 1968 (the Watkins Report), and Foreign Direct Investment in Canada, 1972 (the Gray Report). It is reflected in the work of the Science Council of Canada including Canadian Industrial Development: Some Policy Directions, 1984. More recent works which deal with this issue include: Michael Porter, Canada at the Crossroads: The Reality of a New Competitive Environment, Ottawa, Monitor Co., 1991; Gordon Laxer, The Roots of Foreign Ownership in Canada, Oxford Univ. Press 1989; D. Crane, The Next Canadian Century, Stoddart, 1992; and B. Jenkins, The Paradox of Continental Production, Cornell University Press, 1992.

It is also likely that certain forms of corporate taxes such as payroll taxes, given the pressure on labour at the bargaining table, will be passed on in the form of lower wages.

Moreover, as noted earlier, the FTA/NAFTA reinforces globalization trends that weaken labour power, reinforce low-wage corporate competitiveness strategies, polarize wages, skew income distribution patterns, and diminish both consumption and income tax bases obtainable from the bottom half or more of income earners whose mobility is not enhanced under the FTA/NAFTA.

Thus, even if the FTA/NAFTA increases economic growth, it does not follow, as free trade advocates argue, that the increase in financial resources will translate into increased fiscal capacity to devote to environmental matters. On the contrary, it will likely decrease fiscal capacity and therewith the ability of government to devote resources to the environment.

4. CONCLUSION

The main conclusions of this chapter may be summarized as follows:

- The underlying characteristics of the globalization process in the last 25 years are the ascendance of transnational corporate power (and the growth in power of a small group of nations which are home to the bulk of these corporations and for whom they are tools for enhancing national power), the commensurate decline in the ability and/or inclination of governments to regulate or shape economic activity, and the inability or disinclination of nations to collectively regulate international economic activity. Globalization's consequences have included major economic, social and ecological distortions in the development process among and within nations, including the stretching of the planet's environmental carrying capacity to the breaking point. NAFTA mirrors and entrenches these fundamentals of globalization, and thereby reinforces its worst effects.

- The commitment in the NAFTA preamble to "promote sustainable development and strengthen the development and enforcement of environmental laws and regulations" is unforceable and many provisions in the NAFTA directly contradict this commitment.

- It is far from certain that NAFTA will increase economic growth, sustainable or otherwise, in Canada. Even if it did, it is not likely to bring an increase in fiscal revenues available for environmental protection. On the contrary, the provisions of the Agreement, especially those relating to capital mobility, suggest there is a greater likelihood that fiscal capacity will be adversely affected. And even if fiscal capacity were enhanced under the FTA/NAFTA, the agreements contain no mechanisms to ensure the appropriation of resources for environmental purposes or sustainable development.

- NAFTA reproduces and extends provisions which prevent or frustrate the resource management and conservation which should take place to further Canadian and global interests. The agreement contains many provisions which directly and indirectly encourage resource depletion and environmentally destructive mismanagement.

- Not only is the NAFTA "pollution haven" clause (article 1114) -- which purports to discourage the exodus of corporations for environmental compliance cost considerations -- narrow and weak, but it is without any enforcement mechanisms such as minimum standards or retaliatory provisions, and is subordinate to trade considerations. Many provisions in the Agreement which integrate the market, enhance the mobility of capital and diminish regulatory capability, facilitate the movement of corporations to the areas of lowest environmental as well as social standards (lowest common denominator competition). The consequence of this is the capping and likely ratcheting down of many existing regulations.

- NAFTA removes or frustrates many industrial policy tools which promote sustainability. These include: incentives and requirements for domestic processing of resources, measures to promote green industries or technology transfer, price and tax policies to internalize environmental costs, and other policies to promote sustainable development.

- The intellectual property provisions of the NAFTA violate basic principles of sustainable development: that biological life forms should not be patentable and that especially with respect to products with broad social value, proprietary interests must not compromise broad societal interests or the rights of the original curators of biodiversity, not only in Canada but also in the third world.

Chapter 3

The Environment and International Trade Agreements: An Overview

by Michelle Swenarchuk

1. INTRODUCTION

"Trade and the environment" is currently a major subject of debate world-wide amongst environmentalists, trade promoters, economists, and governments.

In Canada, the regulatory powers of Canadian governments, both federal and provincial, are being affected by international trade agreements and disputes. In order to develop strategies for ongoing environmental protection in the context of trade realities, it is useful to review the history of the trade agreements, and their impacts on green strategies.

The relevant agreements include the General Agreement on Tariffs and Trade (GATT), the Canada-US Free Trade Agreement (FTA), the North American Free Trade Agreement (NAFTA), and the current multilateral Uruguay Round of GATT negotiations.

To evaluate the impacts of the agreements on the environment, it is useful to compare their effects to the principles of "sustainable development." This concept, articulated by the World Commission on Environment and Development (Brundtland Commission), is now widely discussed by environmentalists and policy makers. In Ontario, The Round Table on Environment and Economy, an advisory group of businessmen, environmentalists, provincial Cabinet members, and native representatives, developed six principles of sustainable development. They are:[124]

1. **ANTICIPATION AND PREVENTION**: Anticipating and preventing problems are better than trying to react and fix them after they occur.

2. **FULL COST ACCOUNTING**: Accounting must reflect all long-term environmental and economic costs, not just those of the market.

3. **INFORMED DECISION MAKING**: The best decisions are those based on sound, accurate and up-to-date information.

4. **LIVING OFF THE INTEREST**: We must live off the interest our environment provides and not destroy its capital base.

5. **QUALITY OVER QUANTITY**: The quality of social and economic development must take precedence over quantity.

6. **RESPECT FOR NATURE AND THE RIGHTS OF FUTURE GENERATIONS**: We must respect nature and the rights of future generations.

It is useful to reflect on this articulation of the concept of sustainable development in examining environmental impacts of international trade agreements.

2. THE GENERAL AGREEMENT ON TARIFFS AND TRADE (GATT)

GATT was created in 1947, as part of the post-World War II international economic restructuring which also established the United Nations, World Bank, and International Monetary Fund. Negotiators initially envisioned the creation of an "International Trading Organization" (ITO), a body with more far-reaching powers and authority than the GATT. However, the U.S. Congress did not endorse the ITO concept. The GATT, then, was originally instituted as an "interim" measure.

---

[124] Ontario Round Table on Environment and Economy, Restructuring for Sustainability, Toronto, 1992.

It is both an international organization and an agreement. The organization facilitates the operation of the agreement by arranging consultations, settling disputes and co-ordinating negotiations. Currently, there are 111 Contracting Parties to the GATT, and many additional countries abide by its terms.

The GATT also serves as a binding agreement among the Contracting Parties to maintain the rules set out in the Agreement, as well as subsequent undertakings resulting from multilateral trade negotiations.

Its rules are based on two fundamental principles: "national treatment" and "most-favoured nation treatment". National treatment means that foreign goods, once they have been imported, should receive treatment equal to that accorded domestic goods. Most-favoured nation treatment means that any trade advantage (such as tariff reduction) which is provided to one trading partner, must be provided to all trading partners. Exceptions to these principles occur in Article XXIV allowing the creation of free trade areas, and Article XX regarding measures for the protection of public morals or human, animal or plant life or health (Appendix D).

Under GATT auspices, countries discuss reductions in trade barriers, including tariffs (import taxes) and "non-tariff barriers" (NTBs, including import quotas, health and safety regulations, time-consuming border inspections). The current Uruguay Round of negotiations, initiated in 1986, has broadened significantly the agenda for multilateral trade negotiations by including discussion of trade-related investment measures, trade in services, and intellectual property rights (patents and technology licences).

GATT established a mechanism for resolving trade-related disputes through three-member trade dispute panels who hear the arguments in private proceedings and issue a decision. Based on the panel's decision the offending country must either change its "GATT-illegal" policies, or face retaliatory new "countervailing duties" which may be imposed by the aggrieved member country.

GATT places three main constraints on trade policy. Countries may not subsidize exports, except for agricultural products. They may not impose unilateral quotas for imports, except to prevent sudden surges of imports that threaten to put a domestic sector out of business. They must offset any new import tariffs or tariff increases by reductions in existing tariffs, to compensate trading partners.[125]

GATT does not refer to the environment specifically, although the collateral agreement on Technical Barriers to Trade includes the provision, subject to qualifications, that:

> no country should be prevented from taking measures necessary ... for the protection of human, animal or plant life or health, or the environment... (GATT, Agreement on Technical Barriers to Trade).

The GATT collateral agreement on non-export subsidies permits certain subsidies for "the redeployment of industry in order to avoid congestion and environmental problems".

However, measures with environmental protection importance are permitted by the "General Exceptions" provisions of Article XX of GATT. Measures which are applied in a non-discriminatory manner and are not "a disguised restriction on international trade" are permitted if:

> (b) necessary to protect human, animal or plant life or health;
>
> (g) relating to the conservation of exhaustible natural resources if such measures are made effective in conjunction with restrictions on domestic production and consumption.[126]

This GATT wording has become the basis of numerous trade and environment disputes, as well as disputes regarding governmental powers not specifically related to the environment.

In the 1990 Thai Cigarette Case,[127] a GATT panel did not sustain a Thai ban on the import of cigarettes, despite the argument that one reason for the ban was the protection of human health. The

---

[125] Paul R. Krugman and Maurice Obstfeld, International Economics: Theory and Policy (Glenview, Il: Scott, Foresman and Company, 1988) pp. 219-220.

[126] See Appendix D for the complete wording of GATT Article XX.

[127] Thailand -- Restrictions on Importation of and Internal Taxes on Cigarettes, GATT Doc. 375/200.

GATT panel concluded that there were other possible policies that Thailand could have used that would have been less inconsistent with GATT. This has come to be known as "the least-GATT-inconsistent" test.

In the "Tuna-Dolphin case",[128] a GATT panel ruled in 1991 that it was a violation of GATT for the US to ban imports of yellowfin tuna from Mexico and several other Latin American countries, due to the fishing practices allowed there which kill dolphins caught in purse seine nets. The American law in question was the Marine Mammals Protection Act, a federal law. The Act was found GATT-inconsistent in its restriction of trade through the imposition of an environmental protection measure on countries beyond the American borders. The panel used the term "extrajurisdictionality" to describe the basis of its decision.

A further interpretation of GATT Article XX occurred in the US Beer Case,[129] when a dispute panel considered state laws requiring that imported alcoholic beverages be transported only by carriers authorized to operate within the particular states. The state governments relied on the wording of GATT Article XX(d) which permits measures

> necessary to secure compliance with laws or regulations which are not inconsistent with the provisions of this Agreement, including those relating to customs enforcement, the enforcement of monopolies operated under paragraph 4 of Article II and Article XVII, the protection of patents, trade marks and copyrights, and the prevention of deceptive practices...

Relying on the fact that not all US states have common carrier requirements, the Panel concluded that:

> some states have found alternative, and possibly less trade restrictive, and GATT-inconsistent ways of enforcing their tax laws.

They reached this conclusion without conducting any substantive examination of other states, or of any reasons why differences may exist between states regarding these measures.[130]

---

[128] U.S. -- Restrictions on Imports of Tuna, GATT Doc. DS21/R Sept. 3/1991.

[129] U.S. -- Measures Affecting Alcoholic and Malt Beverages, GATT Doc. DS23/R Feb./92.

[130] See Chapter 3 of this report for a more extensive discussion of the various legal tests utilized by dispute panels under GATT, and the Canada-US Agreement.

In these GATT decisions, panels have utilized various tests in evaluating whether national and subnational laws will be upheld if they conflict with GATT, and whether the laws are protected by the "necessity" wording of Article XX. The tests include whether the measures in question are "the least GATT inconsistent", or the "least trade restrictive" or involve "extrajurisdictionality".

Commentators have concluded that in interpreting "necessity", GATT panels have never held a challenged law to be consistent with GATT.[131]

With regard to issues of resource use, the exemption in Article XX(g) for conservation measures is a limited one, since it only applies when restrictions are applied to domestic production or consumption.

Numerous international treaties and agreements exist which relate to environmental protection[132] and concerns have arisen regarding whether trade-related provisions in them would be upheld if challenged under GATT. The Montreal Protocol on Substances that Deplete the Ozone Layer (1987, amended 1990 and 1992), the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal (1989), and the Convention on International Trade in Endangered Species of Wild Fauna and Flora (1973, CITES) all require signatories to ban imports from non-participating countries in certain cases, and thus discriminate with regard to trade. To date, there have been no challenges to international environmental agreements before trade panels, and therefore no precedents exist on this question.

The GATT secretariat released its report Trade and the Environment in February, 1992. It argues that increased world trade leads to higher per capita incomes, which make environmental protection possible, and that the dissemination of environment-improving technologies is facilitated by trade. It is the position of the GATT secretariat that GATT rules:

---

[131] Wirth, David A.: Statement and Testimony before the House Committee on Science, Space, and Technology, September 30, 1992.

[132] GATT, Trade and Environment: Factual Note by the Secretariat, September 1991 contains a list of 152 international treaties and other agreements in the field of the environment. The GATT report "Trade and the Environment", part of the annual report entitled International Trade 1990-91, published in March 1992, includes a list of 17 multilateral environmental agreements with trade provisions. Also, the US International Trade Commission report International Agreements lists 19 such environmental agreements which include possible trade sanctions.

> place essentially no constraints on the ability of countries to use appropriate policies to protect their environment from damage from domestic production activities or from the consumption of domestically produced or imported products.[133]

The Secretariat did not conduct an environmental assessment of the effects of trade such as would be necessary to support the view that trade necessarily benefits the environment. Such an examination would have required a multi-faceted examination of environmental impacts of trade-related production amongst at least the world's leading trading nations. Since trade entails an increase in international transactions, goods are likely to be transported farther than before placing new strains on existing transportation infrastructure and causing increased energy use, pollution, resource depletion, waste generation, etc. In an era when all natural indicators demonstrate an accelerating rate of environmental degradation world-wide,[134] this GATT statement appears unsupportable.

Further, there has been a widespread disagreement amongst environmentalists with the GATT position that "appropriate" environmental protection policies are permitted by the GATT, leading to a rapidly evolving international effort to achieve significant changes in the wording and administration of international trade agreements.

3. THE CANADA-US FREE TRADE AGREEMENT[135]

The Free Trade Agreement, which went into effect in 1989, is a GATT-style document intended to foster trade between Canada and the US in goods and, for the first time in an international trade agreement, in services as well. It incorporates GATT Article XX, subject to FTA Articles 409 and 904 (FTA Article 1201). Regarding standards, its Chapter 6 is similar to the GATT agreement on Technical Barriers to Trade, but does not apply to provinces and other subnational governments. It permits standards whose purpose is to achieve a legitimate domestic objective, including protection of the environment (Articles 603 and 609). Provisions in the Agriculture chapter relating to standards for agricultural, food, beverage and related goods (Article 708) do apply to provinces, and cover the establishment of bilateral working groups to oversee the harmonization of technical regulations, inspections, and accreditation procedures, as well as the establishment of reciprocal training programs and common data and information requirements.

---

[133] GATT, "Trade and the Environment", part of the GATT annual report entitled International Trade 1990-91, March 1992, p. 5.

[134] See for example, Thurow, Lester, "Economics versus Ecology: Two Contrasting Views of the World" in Ecodecision, June, 1992.

[135] This discussion is based on Swenarchuk, Michelle, "Canada-US Free Trade Agreement: the Canadian Perspective", in Review of European Community and International Environmental Law, Vol.1, #1, 1992, and Shrybman, Steven, Selling the Environment Short: an Environmental Assessment of the first two years of free trade between Canada and the United States, Toronto, Canadian Environmental Law Association, 1990.

Provisions of the FTA, and trade panel decisions under it, have impacted on both environmental standard setting and resource management and conservation in Canada.

Resource Management and Conservation

The FTA reiterates the GATT requirement of National Treatment for goods (Article 105), and contains important limitations on the use of restrictions on exports.

Specifically, Article 408 precludes the use by governments of any tax, duty, or charge on exports unless it is also applied to such goods when destined for domestic consumption. Article 409 goes further and restricts the rights of governments under GATT by further limiting any restrictions on exports permitted by GATT Articles XI(a) and XX(g). The Article precludes restrictions which reduce the proportion of total domestic production of any good available to the other party beneath the proportion exported in the three years prior to imposition of the restriction. This requirement is commonly referred to as "the proportionality clause." The effect of the clauses in eliminating many means of regulation of natural resource extraction and export is particularly clear given the definition of "restriction" in the Agreement, namely:

> ... **any** limitation whether made effective through quotas, licences, permits, minimum price requirements or **any other means**; (Article 410, emphasis added).

Environmentalists argue that this clause gives the US perpetual access to all Canadian resources, once any amount has been exported, and creates significant barriers to the implementation of conservation measures. Concerns have arisen regarding water,[136] and the long-term effect of these clauses, as demand for diversion of Canadian water sources grows in the drought-stricken areas of the US southwest.

Energy

Further concerns arise regarding Canadian energy resources, since the FTA covers almost every kind of energy product, including oil, natural gas, coal, and their derivatives, as well as electricity and uranium. The terms of Articles 407 and 408 eliminating regulatory mechanisms for resource export controls are explicitly repeated with regard to energy exports (Articles 903 and 904) as is the proportionality clause, so that even in the event of domestic energy shortages, Canadian energy supplies will remain committed to the US, the world's largest energy consumer. The FTA thus goes beyond GATT in limiting export restraints.

The Agreement preserves the rights of governments to provide incentives for energy exploration and development. This provision has been criticized by environmentalists as "the wrong way to go" on energy use in Canada, where the emphasis should be on conservation.

The FTA has led to a significant downgrading of the regulatory powers of the National Energy Board, which has eliminated tests previously applied to energy exports for the protection of Canadian energy security. The "least cost alternative", surplus requirements, and cost-benefit tests are no longer applied to energy export applications.

Energy megaprojects are continuing in Canada, and include the James Bay development, Hibernia, and the Mackenzie River Delta development, in which the National Energy Board has approved a ten billion dollar project for the development and export to the US of 87% of the natural gas reserves of the Mackenzie River Delta. Each of these projects entails massive environmental impacts.

---

[136] The legal basis for the argument that water is included in the ambit of the FTA may be found in Chapter 4 of this report, and in: Canadian Centre for Policy Alternatives, Which Way for the Americas, Ottawa, 1992.

> Environmentalists expressed concern prior to the conclusion of the Agreement that the energy provisions would lead to accelerated and unsustainable development of Canadian energy resources, and would effectively preclude pursuit of soft energy alternatives in Canada. The Brundtland Commission found that countries like Canada need to reduce energy consumption by about forty per cent in order to achieve sustainability of the resource. Given the energy needs of Canadians related to climate and transportation across a vast geography, a long-term stable energy supply and immediate action to reduce consumption are essential.[137]

Fisheries

The first decision of an FTA dispute panel concerned whether certain regulations under the federal Fisheries Act contravened the Agreement, by requiring that certain species of salmon and herring caught on the West coast be landed in Canada for biological sampling (the Salmon and Herring case).[138] The requirement was part of a monitoring and conservation program.

The trade panel ruled against Canada, using the test of "whether the measure would have been adopted for conservation reasons alone" in its interpretation of the Article XX(g) of the GATT, incorporated in the FTA. It concluded that sampling only 10 to 20 percent of the catch would be sufficient, rather than the entire catch as required by the Regulation, and that the conservation program was therefore not "primarily aimed at conservation" as, they decided, would be required by the GATT.

> The decision is striking for the willingness of the Panel to decide on the relative merits of a conservation measure and the likelihood of particular economic effects resulting from it for US companies, despite the admittedly inconclusive evidence on many questions, and complete lack of evidence on some. That a panel of members with no particular expertise in conservation matters is mandated to examine such matters is also of concern, particularly when the members decide to evaluate the measure against any other possible approaches to the problem ...
>
> The test to be applied, whether there is a genuine conservation reason for choosing the actual measure in question as opposed to others that might accomplish the same objective suggests that virtually no conservation measure will be upheld under GATT Article XX and the Agreement. Various approaches to most problems can be considered and the likelihood of having a particular one struck down, with all the administrative and legal costs involved, is

---

[137] Swenarchuk, ibid. p. 43-44.

[138] Canada-US Trade Commission Panel, In the Matter of Canada's Landing Requirement for Pacific Coast Salmon and Herring, 1989.

> likely to have a chilling effect on new initiatives ...
>
> Most important, the decision is an interpretation of Article 407 and therefore sets the standard for evaluation of conservation programs **for all resources**, not only for fisheries.[139]

The decision also became an important addition to the international jurisprudence on the "necessity" test in Article XX(b) of GATT, (discussed above) an unwelcome one to environmentalists.

Canadian fisheries were also affected by the Lobsters from Canada decision,[140] in which Canada challenged American restrictions on imports of lobsters below a specified size. The panel decided for the US under GATT Article III, which has no provision for conservation exceptions, as does Article XX, so that the US conservation rationale was not examined.

The FTA and the "necessity" test were also used by the Canadian government when it intervened in a U.S. court challenge to the planned phase-out of asbestos production, import, and use in the US.[141] In this successful challenge to an American environmental standard, the Canadian government argued that the proposed program was not "necessary" and contravened the FTA.

Lumber

As discussed in Chapter 7 of this report, Canadian softwood products have been subject to repeated countervail actions from US lumber interests in the past decade. The FTA fails to protect Canadian producers from such actions, and from the willingness of US officials to apply their trade remedy laws variably, to benefit US business interests.

This problem arises from the wording of Article 1902 which reserves to each country the right to continue to apply its countervailing duty laws to imports from the other country, without establishing any new disciplinary standard on the use of national trade remedy legislation.

---

[139] Swenarchuk, ibid. p. 44.

[140] Canada-US Trade Commission Panel, Lobsters from Canada, 1990.

[141] Corrosion Proof Fittings et al. v. The Environmental Protection Agency, 947 F 2d. 1201 (5th Cir. 1991).

That the most recent lumber dispute centres on the right of Canada to retain its prohibitions against the export of raw logs, a right preserved in the FTA (Art. 1203), is of particular concern to environmentalists (see Chapter 7 case study). Processing of natural resources in Canada is important for job creation, and to reduce reliance on primary resource extraction and move to resource conservation.

Standard Setting

The Salmon and Herring case and US asbestos case demonstrate the impacts of the Free Trade Agreement on environmental standard setting in both Canada and the US. As described in Chapter 5, the Agreement has also had impacts on pesticide regulation in Canada.

The Canadian government is currently conducting a review of all regulations administered by Environment Canada to establish whether they contribute to Canadian competitiveness. Included in the review is the issue of whether the regulations conform to GATT, the FTA, and the proposed NAFTA.[142]

Dispute Settlement

The dispute settlement processes of the FTA are entirely confidential, and provide no right of access to provincial governments or to non-governmental organizations or citizens. This is particularly disturbing since what is at stake is not merely industrial interests, but often, the powers of elected governments to legislate.

While the Ontario and federal governments no longer enter into major environmental policy initiatives without broad public consultation, the FTA, with its enormous environmental implications, was negotiated secretly, and is administered through private processes.

---

[142] Armstrong, Evan, Departmental Regulatory Review Office, Environment Canada, in correspondence to the Canadian Environment Network, January 27, 1992.

4. THE NORTH AMERICAN FREE TRADE AGREEMENT

(see Chapter 4 of this study)

The proposed North American Free Trade Agreement is, from the Canadian perspective, a re-negotiation of the Free Trade Agreement, with the significant addition of a chapter on intellectual property.

It repeats the environmental implications of the FTA regarding resources, but adds new dimensions of impacts on standard-setting, with a comprehensive program of international harmonization of a wide range of environmental (and non-environmental) standards. The rights of national and provincial governments to maintain standards other than international ones are constrained by the criteria for standard-setting used in Chapters 7 (Sanitary and Phytosanitary Standards) and 9 (Technical Barriers to Trade) of the agreement. Specifically, requirements that standards meet the tests of territorial limitations, scientific principles, risk assessment, "necessity", "least trade restrictive", and avoidance of disguised barriers to trade all have import for future standard-setting. The notification requirements and opportunities for NAFTA parties to become involved in consultations regarding standards will have implications for provincial government resources.

The agreement discourages the downgrading of environmental standards in order to attract investment, but does not prohibit it. NAFTA provides a limited protection for trade-related actions taken in accordance with three international environmental agreements, the Convention on Trade in Endangered Species, the Montreal Protocol on Ozone-Depleting Substances, and the Basel Convention on the Control of Transboundary Movement of Hazardous Wastes and Their Disposal. Trade dispute panels may consult panels of environmental experts, but their processes will be secret. Provincial governments and the public will not have access to them.

5. THE URUGUAY ROUND NEGOTIATIONS OF GATT

(See Chapter 5 of this study)

The draft Final Act of the GATT Uruguay Round of multilateral trade negotiations contains seven potential sources of concern for environmental regulators. They are:

1) Diminution of national sovereignty over natural resource management policy;
2) Establishment of a Multilateral Trade Organisation (MTO) with comprehensive GATT enforcement powers;
3) Creation of "automatic permanent adoption" and "unanimous consent" provisions concerning dispute resolution processes;
4) Establishment of international standard setting exercises overseen by democratically unaccountable international bureaucracies;
5) The pre-emption of sub-national (provincial) government environmental regulations;
6) Implementation of the "extraterritoriality" principle which restricts environmental regulations that reach beyond national borders; and,
7) International codification of domestic policies for agriculture, technical barriers to trade, plant health measures, subsidies, investment services, patents and copyrights.

6. CURRENT DEVELOPMENTS IN INTERNATIONAL TRADE AND ENVIRONMENT ISSUES

When questioned in 1987 about the potential environmental impacts of the Canada-US free trade negotiations, the Canadian federal government replied:

> The Free Trade Agreement is a commercial accord between the world's two largest trading partners. It is not an environmental agreement. The environment was not, therefore, a subject for negotiations nor are environmental matters included in the text of the Agreement.[143]

This was said about an agreement with major provisions on energy, agriculture, fisheries, lumber, and technical standards. In contrast, the federal government released a limited "environmental review" of NAFTA in the fall of 1992 when the text of the Agreement was completed.[144]

---

[143] quoted in Tester, Frank, The Free Trade Deal, Lorimer, Toronto, 1988.

The change reflects pressures arising in the intervening four years from the growing awareness, world-wide, of the environmental impacts of trade agreements. Environmentalists, trade policy specialists, and governments are now debating and grappling with the interconnections between global economic patterns, influenced by the agreements, and their impacts on environmental protection strategies. With regard to both GATT and NAFTA, the debates touch on fundamental differences between Northern industrialized nations and poorer Southern less developed nations.

In June of 1992, the United Nations Conference on Environment and Development (UNCED), held in Rio de Janeiro, did not directly address the many environmental implications of international trade agreements. However, in the 27 principles of "The Rio Declaration," a compromise document which reflects both Northern and Southern nations' priorities, numerous principles were enunciated which reflect the trade/environment debate. These include:

> a state's sovereign right to exploit its own resources in accordance with its own policies, without harming the environment elsewhere; the right to development; environmental protection as an integral part of development; sustainable development that requires reducing 'unsustainable patterns of production and consumption;' and that promotes 'appropriate demographic policies;' access to information and citizen participation; the precautionary principle; and the polluter pays principle, including the internalization of costs and the use of economic instruments.[145]

These and other issues continue to dominate the international debates regarding trade agreements' impacts on global ecosystems and on environmental protection strategies.

---

[144] Government of Canada, North American Free Trade Agreement: Canadian Environmental Review, Ottawa, October 1992.

[145] Environment, Vol. 34, No. 8, p. 12.

Standards

Since different countries have different rules and regulations regarding health and safety, food quality, and technical standards for production of all products, international trade has frequently raised the question of when countries may bar foreign products that do not meet their domestic standards. Pressure has grown, from the industrial sectors, for international harmonization of standards to reduce this problem.

As described in Chapters 3, 4 and 5 of this report, the Canada-US Free Trade Agreement, and Uruguay Round of GATT, and the NAFTA all move further in the direction of standards harmonization. Also, the decisions of trade dispute panels to date have repeatedly narrowed the rights of countries and subnational governments to maintain differing standards.

The Codex Alimentarius Commission is an intergovernmental subsidiary body of the Food and Agricultural Organization (FAO) and World Health Organization (WHO). It is recognized by GATT as an acceptable standard-setter for food additives, colorants, pesticide and hormone levels and other food-related standards; however, it has frequently been criticized by environmental groups in North America for being industry-dominated, and accepting standards lower than many North American ones (See Appendix A for a description of its structure and functions).

The first principle of sustainable development, as formulated by The Ontario Round Table on Environment and Economy, is "Anticipation and Prevention" described thus:

> Anticipating and preventing problems are better than trying to react and fix them after they occur.[146]

This principle is related to the "precautionary principle" advocated widely by environmentalists, and accepted in the Rio Declaration. As stated by Greenpeace:

> An integral part of the precautionary principle is that the burden of proof should not be on

---

[146] Ontario Round Table on Environment and Economy, Restructuring for Sustainability, Toronto, 1992.

> one concerned with the protection of the environment to demonstrate conclusive harm, but rather on the prospective polluter to demonstrate no harm - giving the environment and human health the benefit of the doubt.[147]

In contrast, the "necessity" test applied in trade disputes, as mandated by Article XX of GATT, together with the various trade panel decisions under GATT and the FTA[148] directly contradict the precautionary principle and the preventive actions required to implement it. The burden of proof is squarely on the party relying on a domestic standard to prove its "necessity," with a trend in the trade panels to reject differences in standards between parties. The NAFTA requirements for "scientific justification" of standards similarly requires a high measure of "proof" of likely harm, rather than a sufficient possibility of harm to invoke the precautionary principle. NAFTA contains several statements that jurisdictions may continue to set standards as they chose; however, this principle is contradicted by criteria for standard-setting specified in the agreement. (Discussed in Chapter 4)

A second area of conflict between environmental concerns and the direction of trade panels and agreements concerns product and process standards. After the Tuna-Dolphin decision, Mexico and the US agreed to enact a global moratorium on the use of the nets on dolphin as a basis for prohibiting imports of "dolphin deadly" tuna, but have not yet actually entered into such a moratorium. This inaction has led US environmentalists to urge specific wording in agreements permitting the rights of parties to set standards and distinguish between products on the basis of production methods.

> Trade law must recognize that how a product is produced is just as important as the quality of the product itself. Only by recognizing process-based trade restrictions will governments retain their ability to keep high standards within their own jurisdiction without placing domestic producers at a competitive disadvantage.[149]

---

[147] Greenpeace International, UNCED UNDERMINED: Why Free Trade Won't Save the Planet, March 1992, p. 9.

[148] See Chapter 3 of this report for a discussion of the relevant trade dispute decisions.

[149] Letter from 24 US environmental groups to United States Trade Representative Mickey Kantor, March 12, 1993.

The standards provisions in trade agreements should be broadened to cover production processes, as well as characteristics of the final products themselves.

A third concern of environmentalists regarding harmonization of standards is the exclusion of the public from these processes. This is particularly true with the GATT reliance on Codex Alimentarius, and the NAFTA procedures of standard-setting by obscure international organizations (See Appendix A and Chapter 4 for details).

A key demand of the environmental movement in industrialized nations from its beginning has been more public accountability and honesty from governments and industry regarding environmental practices. In Southern nations, such as Mexico, ecologists repeatedly seek the establishment of publicly-accountable institutions for environmental protection together with mechanisms for public participation in decision making.[150]

In Canada and in Ontario, governments no longer attempt to institute significant environmental protection policy changes without consultation with groups including environmental groups. There is no indication that the international harmonization processes will include such consultation, nor would most public interest groups be able to participate without considerable support, including intervenor funding. Given the key role public interest environmentalists have played to date in improving environmental standards, this reality of internationalization leads to grave concerns that the harmonized standards will be at low levels.

The fourth concern regarding harmonization is the ceiling it may place on environmental standard setting. Advances in green protection strategies now frequently occur in a "leap-frog" fashion. Jurisdictions that establish high standards in a particular area (i.e. Germany on packaging, Ontario on waste management, California on auto standards) provide precedents that environmentalists in other areas then lobby their governments to emulate. International harmonization, by definition, removes this process of continual improvement of standards.

---

[150] Personal communication with Ignacio Peón of the Autonomous University of Mexico, January 19, 1993, Mexico City. See also Peón, Ignacio, NAFTA and the Environment, Red Mexicana de Acción, 1993.

Resource management and conservation

Canadian environmentalists have been particularly aware of the relationship between resource use and conservation and environmental protection. They have therefore focused on the trade agreements' impacts on resources, and the provisions for "market access" which have limited the rights of governments to control resource exploitation through import and export controls and price mechanisms.[151]

The Ontario Round Table on Environment and Economy, in its "Six Principles of Sustainable Development" has recognized the need to move to conservation of world resources, and to economic practices that reduce reliance on primary resource extraction. Specifically, it calls for "living off the interest," meaning using resources efficiently, not depleting renewable ones, and seeking renewable substitutes for non-renewable resources. The Round Table also endorses "Respect for nature and the rights of future generations," including the need to protect resources for future generations, both for economic and non-economic uses.[152]

However, the emphasis on trade and trade-led growth in many areas of the world:

> ... has led to over-exploitation of land and natural resources, resulting in severe ecological degradation. Monocultural agriculture has caused extensive soil depletion and erosion, pesticide pollution, and human poisoning. Deforestation and desertification are occurring on a massive scale, industrial growth has led to widespread air, water, and soil pollution, ozone depletion and global warming, along with the creation of a monumental hazardous and solid waste crisis. In addition to the ecological consequences of trade-led growth, local and native communities have been destroyed or displaced and alarming increases in chemical-induced

---

[151] See GATT Article XI, Canada-US Articles 408,409,903,904, and NAFTA Articles 603,604,605,316. See also Swenarchuk, Michelle, op. cit.

[152] Ontario Round Table, op.cit. pp. 5-6.

> health effects such as cancer, reproductive abnormalities, and immune system suppression have been experienced.
>
> In the South, these effects have been aggravated by the need to intensify resource exploitation and exports to raise foreign exchange (often to pay back debt) or to counteract low commodity prices that result from declining terms of trade. Clear examples of this process can be seen, for example, in the replacement of indigenous food production systems in Latin America by monoculture export crops like tobacco, sugar, or cotton, which require heavy chemical use, impoverish the soil, and displace small farmers.[153]

Mexican environmentalists have expressed concerns that the export-led growth strategy of the current Mexican government, propelled by NAFTA, will impact negatively on all its natural resources. They are also particularly concerned about the impacts of opening the communal agricultural lands, the ejidos, to severance and sale, a policy adopted concurrently with the promotion of NAFTA by the Salinas government. The displacement of subsistence farmers, as the lands are sold, is already obvious in the region of Cuernavaca, and Mexican ecologists repeatedly express concerns regarding the likely continuing influx of landless peoples to the cities, and resulting worsening of current serious urban social and environmental problems.[154]

As noted above, Canadian resource management has been significantly impacted by the wording of the Canada-US agreement, and by trade disputes concerning fisheries, and lumber. Government regulatory powers regarding energy have been reduced through the stripping of National Energy Board powers and the "proportionality" clause. Environmentalists are also concerned about continuing restrictions on agricultural marketing boards and the possibility of large scale water diversions to serve the arid southwest of the US.[155] The unilateral use of US trade remedy powers, discussed in Chapters 6 and 7 of this report, underscore the vulnerability of Canadian resource and environmental protection strategies to trade challenges.

---

[153] Greenpeace, op cit. pp. 1-2.

[154] Patricia Hume of Cuernavaca, Mexico, personal communication, March 10, 1993; Ignacio Peón, personal communication, January 19, 1993.

[155] See for example, Linton, Jamie, "Water export: the issue that won't go away", in Canadian Water Watch, (the newsletter of the Rawson Academy of Aquatic Sciences), Vol. 5, Nos. 5-6.

The conflict between US trade policy and international environmental protection initiatives was also obvious at the Rio conference, particularly regarding two intended conventions, those on climate change and protection of biodiversity.

Energy Trade and Climate Change

Negotiations for a climate change convention began under UN auspices in 1988, and continued until May of 1992. Following a UN resolution in December 1990, negotiations were conducted by the Intergovernmental Negotiating Committee (INC), but were stalled due to differences between the US and other Northern countries, including the European Community. The US opposed arguments from the other countries that a convention should contain specific commitments to limit carbon emissions to 1990 levels by the year 2000. The US argued that such limits were premature and lacked sufficient scientific evidence. The resulting compromise document requires industrialized countries to develop national emission limits and emission inventories and to report periodically on their progress, without targets or dates. The objective of the treaty does not define actions necessary and create specific obligations on countries, but only requires:

> ... stabilization of greenhouse-gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system ... within a time frame sufficient to allow ecosystems to adapt naturally.[156]

In contrast to the objective of fossil fuel emission reduction fundamental to the climate change convention, the US has pursued guaranteed access to energy supplies through the "proportionality clause" of the Canada-US Free Trade Agreement. The FTA and NAFTA both permit the continuation of subsidies for energy development. Clayton Yeutter, US Trade Representative at the time the FTA was negotiated, indicated that the FTA met a key US strategy to obtain secure access to energy supplies by proscribing future government restrictions.[157]

---

[156] The discussion of the UNCED climate change and biodiversity conventions is based on Environment, Vol. 34, No. 8, "A summary of the major documents signed at the Earth Summit and the Global Forum."

In contrast, the Ontario Round Table, in discussing the application of sustainable development principles to the climate change issue, reiterated the need for "full-cost accounting", meaning:

> bringing "externalities" into the market economy and into public policy making and decision-making. The existing system of economic incentives and market prices does not even begin to incorporate the external costs of greenhouse gas emissions as they relate to global warming. The application of the principle of full-cost accounting and the related principle of full-cost pricing to the issue of global warming supports the elimination of subsidies for activities that lead to the emission of greenhouse gases, and can be used to argue for substantial increases in the price of sources of greenhouse gases, including fossil fuels in particular.[158]

Intellectual Property Rules and Conservation of Biodiversity

With regard to protection of biodiversity, a similar discrepancy exists between the intellectual property provisions of NAFTA and the attempts of many nations to achieve a meaningful convention at UNCED.

> The [UNCED bio-diversity] treaty has three goals: the conservation and sustainable use of biological diversity, and the fair sharing of products made from gene stocks. To advance these goals, the signatories must develop plans for protecting habitat and species; provide funds and technology to help developing countries provide protection; ensure commercial access to biological resources for development and share revenues fairly among source countries and developers; and establish safety regulations and accept liability for risks associated with biotechnology development.

The US did not sign the treaty for reasons including that:

> ... the benefit-sharing provisions were incompatible with existing international regimes for intellectual property rights ...[159]

---

[157] Clayton Yeutter, quoted in Shrybman, Steven, Selling Canada's Environment Short: The Environmental Case Against the Trade Deal, Canadian Environmental Law Association, 1988.

[158] Ontario Round Table, op cit. p. 55.

[159] Environment, Vol. 34, No. 8, p. 14.

Although the Clinton administration has indicated that it is now prepared to sign the Convention on Biodiversity, it will only do so if all signatory nations accept an "interpretive statement." Environmental groups in the Third World Network report that the US statement, effectively changes the purpose of the convention from protection of biodiversity to protection of the biotechnology industry and corporations' intellectual property rights.[160]

Greenpeace has estimated that royalty payments related to trade in intellectual property would amount to a transfer of between $43 and $102 billion a year from the South to Northern multinational corporations, and further:

> ... by extending patent protection to areas of genetic design and biotechnology, large corporations can reap the benefits of the knowledge of seeds and medicinal plants that farmers and forest-dwellers, especially in the South, have developed over centuries. Southern countries would have to pay royalties to transnational corporations to use seeds and drugs made from genetic materials originally developed and made available in the South. Current TRIPs (Trade in Intellectual Property) proposals do not explicitly provide for compensation for discovery and use of these biological and genetic resources, or for indigenous technologies.[161]

Another emerging resource issue related to trade and protection of biodiversity concerns trade in wildlife species. The US environmental group Defenders of Wildlife, in testimony to a Congressional committee, cited a World Wildlife Fund study that found that the increased transport and tourism likely to result from NAFTA will result in increased wildlife trade, both legal and illegal.[162]

---

[160] Third World Network, "U.S. Sabotages Biodiversity Convention", and Shiva, Vandana, "Clinton Administration Perverts Biodiversity Convention to Serve Biotechnology Industry", April 26, 1993, electronic transmission.

[161] Greenpeace, op.cit., p. 4.

[162] Defenders of Wildlife and its Associate Counsel, William J. Snape, The effect of NAFTA on the Environment, Wildlife and Natural Resources: Opportunities and Dangers, Testimony before the House Merchant Marine and Fisheries Committee Subcommittee on Natural Resources and the Environment, March 10, 1993.

Mexico is one of the most biologically diverse countries on the planet with 30,000 plant species, 1000 bird species, and 1500 mammals, reptiles and amphibians. Fifteen percent of the species are unique to Mexico. At the present time, 2 million acres of forest land are lost annually, together with 560 million tons of topsoil.

The Defenders of Wildlife are concerned that the species will be impacted by NAFTA -related effects including increased human contact along the border causing increased stress on surface and subsurface waters and migratory birds, and further fragmentation of wildlife habitats. Particularly vulnerable are the 460 endangered, threatened, proposed, and candidate species of plants and animals inside 25 miles of the US-Mexico border.

The US Department of Justice has estimated that approximately 100,000 exotic birds are smuggled into the US from Mexico each year, with very high mortality rates, and that Mexico is undermining efforts of other South American countries to protect their wildlife by acting as a funnel for the traffic. Defenders of Wildlife argue:

> Loosening of trade restrictions without adequate environmental safeguards and border inspections can only encourage even more problems with illegal wildlife trade. Unless Mexico can demonstrate that it is able to control its illegal wildlife shipments, the US alone should not be expected to either condone or correct this serious problem. Although CITES, the international treaty controlling wildlife trade, has been in effect since 1976, Mexico has only recently acceded to that treaty and has not yet fully implemented it... Until enforceable mechanisms, as required by CITES, are in place to protect birds and other species threatened by wildlife trade, trade in CITES listed species should cease and inspections of shipments and vehicles from Mexico should be multiplied.[163]

In summary, resource issues have already proven very contentious in trade disputes. As UNCED and the NAFTA debates indicate, the emerging world-wide environmental consciousness together with problems of resource depletion will undoubtedly cause these disputes to multiply in the future.

---

[163] Defenders of Wildlife, op.cit., p. 14.

Investment and Growth

Since trade liberalization normally entails an increase in international transactions, this implies that more goods are likely to be transported farther than before. This may place new strains on existing transportation infrastructure and cause increased energy use, pollution, resource depletion, waste generation, climate change, etc. As long as market prices of goods do not include all their environmental costs, the "free market" - especially the international one, cannot be depended upon as the sole mediator for sustainable development.

As discussed in Chapter 2 of this report, corporations may target investment to jurisdictions which have low environmental standards, or which, like Mexico, do not adequately enforce the standards they have. The maquiladora free-trade zones along the US-Mexico border exemplify the worst case scenario that may result when corporate environmental impacts are essentially unregulated. Pollution-related movement of transnational corporations has also been noted in the petrochemical, asbestos, waste incineration and furniture industries.[164]

However, while environmentalists world wide have decried these practices, and criticized the failure of trade agreements, including NAFTA, to prohibit them, others have argued that the export of pollution to the South is economically efficient and should be promoted. Lawrence Summers, formerly an economist at the World Bank, and now Undersecretary for International Affairs in the Clinton administration, argued in an internal World Bank memo of December 12, 1991:[165]

> Just between you and me, shouldn't the World Bank be encouraging more migration of the dirty industries to the LDCs (lesser developed countries)?

He advanced three reasons to support this practice. First, he suggested that the costs of health impacts from pollutants would be lowest in low-wage countries, so that

> I think the economic logic behind dumping a load of toxic waste in the lowest wage country

---

[164] Greenpeace, op.cit., p. 3, and sources cited therein.

[165] Summers, Lawrence, quoted in Economist Feb. 8, 1992.

> is impeccable and we should face up to that.

Secondly, he argued that initial amounts of pollutants, in previously unpolluted areas probably have very low cost.

> I've always thought that underpopulated countries in Africa are vastly under-polluted; their air quality is probably vastly inefficiently low (sic) compared to Los Angeles or Mexico City. Only the lamentable facts that so much pollution is generated by non-tradable industries (transport, electrical generation) and that unit transport costs of solid waste are so high prevent world-welfare-enhancing trade in air pollution and waste.

Lastly, he noted that the demand for a clean environment is likely to be higher in high income countries.

> The concern over an agent that causes a one-in-a-million change in the odds of prostate cancer is obviously going to be much higher in a country where people survive to get prostate cancer than in a country where under-5 mortality is 200 per thousand ... The problem with the arguments against all of these proposals for more pollution in LDCs (intrinsic rights to certain goods, moral reasons, social concerns, lack of adequate markets, etc.) could be turned around and used more or less effectively against every Bank proposal of liberalization.

Clearly, policies based on these arguments do nothing to advance planetary environmental protection and are the antithesis of the policies proposed by environmentalists. Environmentalists have called for the "polluter pay" principle to apply, and more:

> The criteria that says that those who pollute must pay for the damage is not enough. Those that contaminate should repair the damage that they cause, at the site of the damage, as quickly as possible. ... Only a conscious and informed society would be able to internalize environmental costs. This also implies that it is not valid to transfer pollution from one place to another, and much less from one country to another.[166]

The Sierra Club has proposed to deter US corporations from moving to Mexico to profit from lower environmental standards and enforcement, by requiring that they meet US laws, when they operate in Mexico, or Mexican ones, where they are higher. The Club also proposes that shareholders be empowered to file actions in US courts against such US companies if they are violating either US or Mexican law.[167]

---

[166] Ignacio Peón, op cit. p. 7.

Subsidies and Other Economic Instruments

Government export subsidies constitute interference in free international markets, under the terms of GATT, and are allowed only in very specific circumstances. The FTA extends these prohibitions to ban export subsidies, but to specifically permit more general subsidies only for energy development and military purposes. In contrast, unilateral use of US trade remedy law has impacted the use of subsidies for environmental protection purposes in Canada. (See Chapter 6 of this report).

Environmentalists have criticized the protection of subsidies for military activity, given the exceptional levels of environmental damage caused world-wide by militarism.[168]

Since subsidies represent an important tool for governments to use in influencing the economy, the restrictions flowing from trade agreements seriously hamper efforts to encourage conservation and pollution control, provide incentives for "green industry", and otherwise foster sustainable development.

The absence, in a particular country, of strong environmental regulations or strong enforcement of regulations can also constitute an unfair subsidy (an economic advantage) for industries in international trade, since they are competing with industries abroad which may face higher production costs due to stricter environmental rules.

Some environmentalists have supported the imposition of "green countervail" options, which would permit tariffs to be used against imports of goods from a country which permitted environmentally-damaging production methods. These "green trade sanctions" have been criticized, however, as potentially useful only by wealthy powerful nations against poorer, less developed nations; it is argued that poorer nations could not risk their trading relations by the use of such sanctions.

---

[167] Sierra Club, Environmental Concerns Regarding the December 17, 1992 North American Free Trade Agreement, Washington, 1993, p. 12.

[168] See Science for Peace, Taking Stock: the impact of militarism on the Environment, Toronto, February, 1992; Swenarchuk, Michelle, Environmental Alternatives to NAFTA, speech to the Council of Canadians, November, 1992; Ignacio Peón, op cit. p. 6.

There is now a wide recognition of the need for funding mechanisms and transfers of funds and technologies to Southern nations to assist in environmental protection. Some of these needs were addressed in a limited way by proposals at UNCED.

Trade Agreements and Decision Making

A continuing and unresolved problem relating to trade agreements is the secrecy which surrounds their negotiation, administration, and dispute resolution. Only parties to the agreements, national governments, have access to and rights of participation in these processes. Provincial governments, non-governmental organizations, and the public at large have no such rights. Since the agreements now constitute an international legal regime that has the effect of constraining powers of elected governments, fundamental questions of democracy arise. Specifically, elected governments are being constrained by the results of secret international negotiations from exercising powers they have exercised to date, in accordance with national constitutions, and in response to public demands. Within Canada, specifically, concerns were raised regarding the constitutional implications of the Canada-US FTA,[169] and the further intrusions into provincial powers proposed in NAFTA and the GATT Uruguay Round raise additional concerns. This is particularly true of environmental protection and resource conservation strategies, in which Canadian provinces have important constitutional powers.

---

[169] Ontario Attorney General, The Impact of the Canada-US Trade Agreement: A Legal Analysis, Toronto, 1988.

Reform Initiatives

The debate concerning trade and environment linkages and clashes has generated many and varied proposals for reform of trade rules.[170] Because of their centrality to the debate, two reform initiatives will be discussed here: those occurring within the GATT and the OECD.

Current GATT Initiative[171]

The GATT - Group on Environmental Measures and International Trade was originally established in November, 1971 as a result of a GATT Council decision. At that time its role was to deal with specific matters concerning trade policy aspects of measures to control pollution and to protect the human environment. The Group was not activated until October 1991, when the GATT contracting parties were finally able to reach agreement on the agenda of work for the group. That agenda includes the following:

---

[170] The International World Wildlife Federation has made a number of specific proposals for amendments to GATT regulations which would enable the internalization of resource and environmental costs, facilitate the sustainable management of natural resources, strengthen the environmental exceptions provision in Article XX, reform the dispute settlement process, assess the environmental effects of GATT, and address a number of conservation issues. Steven Shrybman of the Canadian Environmental Law Association has proposed an Environmental Protection amendment to GATT which would explicitly permit actions to protect the environment: conservation, standards, public participation, access to information, and burden of proof are all addressed. Pollution Probe has also made specific recommendations for improvements to the NAFTA text which address its commitment to sustainable development, the strength of environmental provisions, standard-setting, permissibility of trade measures for transboundary environmental disputes, the burden of proof issue, dispute resolution, environmental assessment of NAFTA, and public consultation. See Charles Arden-Clarke, "The Environmental Impact of the General Agreement on Tariffs and Trade: An Analysis and Discussion Paper," Gland, Switzerland, World Wildlife Foundation, 1992, pp. 24-26; Janine Ferretti, Zen Makuch and Ken Traynor, "Issue Paper: International Trade and the Environment," Canadian Environmental Law Association, October 1991; "Statement of Janine Ferretti on Behalf of Pollution Probe Before the Standing Senate Committee on Foreign Affairs on the North American Free Trade Agreement and the Promotion of Sustainable Development," Pollution Probe, February 25, 1992.

[171] This discussion is based on GATT, "An Interim Report of the Chair of the Group on Environmental Measures and International Trade," December 1992; and on communication between the Canadian Environmental Law Association and Janet Chakarian, Economic Affairs Officer, GATT, Geneva, Switzerland, May, 1993.

1. Trade provisions contained in existing multilateral environmental agreements (e.g., the Montreal Protocol on Substances that Deplete the Ozone Layer, the Washington Convention on International Trade in Endangered Species, and the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal) vis-à-vis the GATT principles and provisions.

2. Multilateral transparency of national environmental regulations likely to have trade effects.

3. Trade effects of new packaging and labelling requirements aimed at protecting the environment.

The Group has held 10 meetings to date. There has been general agreement in the Group that trade liberalization and the protection of the environment should not be considered as mutually conflicting objectives; the Group has called for greater integration of environmental trade policies at the national level, as well as for parallel efforts to promote international co-operation on the basis of multilateral rules both in the trade and environment fields.

However, it has also been agreed that the role of the Group is not to pronounce on the degree of consistency of specific trade related provisions in existing multilateral environmental agreements with GATT provisions. Nor has the Group taken the view that GATT should be the forum for establishing environmental standards or global policies on the environment.

The Group has the collective view that GATT provisions provide for and permit a wide variety of trade related environmental measures. Article III of the GATT is seen by them as the means by which measures such as internal taxes, regulations and requirements for imported products can be used to cope with the environmental impacts of trade. They also assert that exemptions for environmental policies under Article XX provide a broad range of opportunities for environmental policy making where trade is seen as an environmental threat.

There has been strong agreement that the risk of environmental objectives being used as a basis for protectionist trade actions must be avoided. It is their view that the conditions contained in Article XX provide a fair balancing of trade and environment issues in order to prevent this form of abuse of environmental measures.

With respect to the relationship between GATT and the named international environmental agreements, the Group has taken the view that, in general, a later and more specific agreement takes precedence over an earlier agreement as long as certain characteristics of a key international agreement are in evidence. They point out that this would provide for the right of multilateral environmental agreements to supersede trade provisions in some instances.

There is concern about the extent to which a multilateral environmental agreement should permit trade restrictions to be imposed upon countries which have not signed such an agreement. It was concluded that more detailed analytical work was required in this area. In this regard, reference was made to the need for a common and more precise understanding concerning the applicability of GATT Articles I, III, XI, and XX to multilateral environmental agreements.

On the matter of multilateral transparency of national environmental regulations likely to have trade effects, the Group is conducting a review of the adequacy of the "transparency provisions" of the GATT and of the prospective Uruguay Round Agreement in light of national environmental regulations that may have trade effects. The Group notes that Article X and the 1979 "Understanding Regarding Notification, Consultation, Dispute Settlement and Surveillance" are recognized to play an essential role in providing for the proper functioning of the multilateral trading system, while helping to prevent the emergence of unnecessary trade disputes.

As well, they point out that the Agreement on Technical Barriers to Trade calls for notification of a trade related regulation prior to its adoption. Hence the Group takes the view that these transparency provisions accomplish the task of pre-notification of national trade related environmental regulations which conflict with GATT provisions.

With respect to trade effects of new packaging and labelling requirements, the Group is preparing a generic examination of the trade effects of new forms of packaging and labelling requirements aimed at protecting the environment. The delegation noted the trade effects of certain types of measures and demonstrated concern about the need to resolve potential trade-environment conflicts. The GATT Secretariat has been asked to prepare a factual background paper on environmental packaging and labelling requirements. The paper provides a grouping of measures under mandatory and voluntary headings. It has also distinguished between policies implemented by regulatory mechanisms versus those which are implemented through the price mechanism in market forces.

The Secretariat's paper is being supplemented by various delegations which are providing further information on their national experience with such requirements. Once this exercise is complete it will form the basis for future discussion of this agenda item by the Group.

Current OECD Initiative[172]

In June 1991 and May 1992, Ministerial Mandates were granted by members of the Organization for Economic Co-operation and Development (OECD) for the establishment of procedural guidelines and a work program on trade and environment policies. Accordingly the Joint Session of Trade and Environment Experts met regularly for two years. On June 7th, 1993 they will present a report on the first stage of their work to the Ministers.

In the first stage the Joint Session concentrated on identifying, describing and analyzing various factors (described below) related to trade and environment linkages. This work is to assist member nations in developing policies to improve the compatibility of trade and environment policies and policy making.

---

[172] See the summary of an OECD Joint Session of Trade and Environment Experts entitled "Report to the Meeting of the Council at Ministerial Level," (COM/TD) ENV(93) 28/REV2.

In the second stage of its work the Joint Session of Trade and Environment experts will elaborate on the work program. They will also attempt to identify the key issues to be addressed in each area, the analytical and methodological approaches to be employed in each area and the timing and the stages of implementation of the Work Program. The primary objectives of this Work Program are:

- To aid governments in understanding and addressing trade and environment issues;
- To provide material for the possible further development and elaboration of OECD guidelines on trade and environment linkages; and
- To provide a focused examination of issues which may provide input to negotiations and other fora.

Joint Sessions: First Stage

The procedural guidelines developed in the first stage of the Joint Sessions work address the following four areas:

- Transparency and consultation

Governments should provide for transparency and for consultation with interested parties in the development and implementation of trade and environmental policies with potentially significant effects on each other.

- Trade and environmental examinations, reviews, and follow-up

Governments should examine or review trade and environmental policies and agreements with potentially significant effects on the other policy area early in their development, to assess the implications for the other policy area and to identify alternative policy options for addressing concerns. Governments may co-operate in undertaking such examinations and reviews.

Governments should follow up as appropriate: to implement policy options; to re-examine the policies, agreements and any measures in place; and to address any concerns identified in the conclusion of such re-examinations.

- International environmental co-operation

Governments should co-operate to address transboundary, regional, or global environmental concerns, in particular through the negotiation and implementation of environmental policies and agreements among the countries concerned, with a view to enhancing the effectiveness of environmental action and avoiding undue effects on trade.

- Dispute settlement

When, pursuant to an agreement between countries, a country is party to a trade dispute which has an environmental dimension, or to an environmental dispute which has a trade dimension, the government, in developing its national approach, should recognize the importance of taking into account, as appropriate, environmental, trade, scientific and other relevant expertise and should therefore work further to develop, as necessary, appropriate means to achieve transparency.

Joint Sessions: Second Stage

In the second stage of its Work Program the Joint Session will adopt a focused, analytical approach, making use of various tools including case studies and analyzing relevant international trade and environmental rules, obligations and disciplines. The staging and overall timetable for different issues in the Work Program will be decided at the end of June 1993, after meetings with non-government representatives.

The general areas for analysis under stage two include:

- Methodologies for conducting examinations, reviews and follow-up of trade and environmental policies and agreements;

- Effects of trade liberalization on the environment;
- Process and production methods (PPMs);
- Use of trade measures for environmental purposes;
- The concept of life cycle management and trade;
- Harmonization of environmental standards;
- Trade and environmental principles and concepts;
- Economic instruments, environmental subsidies and trade;
- Environmental policies, investment and trade;
- Dispute settlement.

7. CONCLUSION

While the OECD and GATT initiatives are laudable beginnings of possible reforms of the negative environmental impacts of trade and trade agreements, their progress to date seems unlikely to satisfy environmental critics in the trade/environment debate; nor to transcend the current "dialogue of the deaf" that pervades many of these polarized discussions.

For example, if the GATT committee concludes that Articles III and XX of GATT provide sufficient opportunities for environmental protection in the GATT context, the committee will certainly not satisfy critics of the Tuna-Dolphin and Salmon and Herring decisions.

Nor are critics from democratic countries likely to be satisfied with anything short of substantial disclosure of dispute processes, and meaningful opportunities for public participation in them. Environmental expertise will increasingly be expected amongst those sitting on trade panels concerned with environmental issues, together with a burden of proof that favours green protection strategies.

With a world-wide consciousness of trade/environment linkages, in the wake of the Rio Summit, the GATT Uruguay Round negotiations, and NAFTA, pressures for reform will continue.

In addition to the "transparency" requirements, citizens will continue to seek modifications of agreements to ensure that local, subnational and national governments retain sufficient powers to establish the environmental protection programs their electorates expect.

There will be a continuing demand for credible environmental assessment of trade agreements, at both national and international levels, on an ongoing basis that includes tracking of trade flows, resource use, and pollution impacts.

The issue of trade agreement impacts on resource depletion will become of increasing concern if development is to be sustainable, as well as the issue of the ecological impacts (energy use, carbon emissions) of long-distance transport of goods.

Additional unresolved questions include: the need for economic and technological transfers to countries of the South to assist in green protection; the implementation of the "polluter pays" principle; international implementation of the internalization of environmental costs; and the many identified international environmental issues discussed at Rio (global warming, ozone depletion, desertification, forest depletion, marine ecology).

To plan economic activity including trade while fostering environmental protection and sustainable development will require a fundamental shift in approach from current practice.

Chapter 4

The Environmental Implications of NAFTA: A Legal Analysis

by Michelle Swenarchuk

1. INTRODUCTION

This chapter provides a detailed examination of the wording of the NAFTA that has potential impacts on the environment, and on environmental protection strategies. In it, we consider its implications for certain international environmental agreements; resource conservation; environmental standard-setting; investment; and dispute settlement.

Since the wording of NAFTA frequently echoes provisions of GATT, the FTA, and trade panel decisions, relevant provisions from these sources are identified to assist in understanding NAFTA's potential impacts.

2. PREAMBLE AND OBJECTIVES

The preamble to the agreement includes three statements in support of environmental protection. The Parties resolve to:

- Undertake (other goals) in a manner consistent with environmental protection and conservation;

- Promote sustainable development;
- Strengthen the development and enforcement of environmental laws and regulations...

Unfortunately, as Canadian negotiators report,[173] the preamble is not enforceable; in the case of a conflict between one of its terms and a substantive provision of the agreement, the substantive provision will prevail.

In contrast, the objectives of the agreement, which largely relate to promoting an increase in trade and do not refer to environmental goals, are enforceable; the provisions of the agreement are to be interpreted in the light of these objectives. (Art. 102)

3. INTERNATIONAL ENVIRONMENTAL AND CONSERVATION AGREEMENTS

The agreement provides that with regard to three environmental international agreements, their obligations will prevail over the NAFTA in the event of conflict. This precedence is qualified by the requirement that a Party which relies on the environmental agreement must chose among "equally effective and reasonably available means of complying with such" agreement, "the alternative that is the least inconsistent with the other provisions of this Agreement" (Art. 104). In the event of a dispute proceeding to a trade dispute panel, this "least NAFTA inconsistent" test will permit panel members to decide whether the path of compliance chosen by a government is acceptable under NAFTA.

The three environmental agreements named include the Convention on the International Trade in Endangered Species of Wild Fauna and Flora (CITES), the Montreal Protocol on Substances that Deplete the Ozone Layer and the Basel Convention on the Control of Transboundary Movement of

---

[173] Ron Davidson, External Affairs and International Trade, communication to member of environmental group, September 14, 1992, Ottawa.

Hazardous Wastes and Their Disposal[174] (when it comes into force for the three countries). In addition, two bilateral agreements have been included: the Canada-US agreement regarding transboundary hazardous waste movements, and the US-Mexico agreement for co-operation regarding environmental cleanup in the border area. (Annex 104.1)

The CITES trade provisions include the requirement of export and import permits, or outright bans in trade, for specified species of plants or animals. This convention is in force and 110 countries are party to it.

Trade provisions of the Basel Convention include the right to prohibit the importation of specified hazardous wastes for disposal and the prohibition of export without prior informed consent. Parties are not to permit the export of wastes to a non-party. There is still some uncertainty over the precise criteria by which to evaluate a chemical as severely restricted or banned. This convention is in force for countries, including Canada, that have ratified it.

The Montreal Protocol on Substances that Deplete the Ozone Layer, negotiated in 1989 and amended since, established a schedule for reduction by stages of production and consumption of ozone depleting substances. The substances are used in products such as refrigerators, air conditioners, and fire extinguishers. The Protocol urges parties to discourage trade in the products on the list to achieve the target of eliminating the production and consumption of controlled substances by the year 2000.

Parties are also to consider the feasibility of restricting or banning imports from non-parties of products produced with, but not containing, controlled substances listed in Annex A to the Protocol. Specifically, with regard to trade with non-parties, the most likely source of trade disputes, the Protocol sets specific dates after which imports from and exports to non-parties, will be banned. The import ban on the Protocol's Annex A substances was effective January 11, 1991; the export ban of Annex A substances is effective January 1, 1993. The substances added in the London amendment (Annex B) will also be banned effective January 1, 1993. A fourth meeting of the parties to the Protocol took place on November 23-25, 1992. At that meeting a phase-out date of 1996 was agreed to for CFCs, carbon tetrachloride and methyl chloroform. Halons will be phased out by 1994. This last round of amendments will come into force on January 1, 1994.

---

[174] The U.S., Canada, and Mexico are all parties to the Montreal Protocol and have ratified the London amendments. They have all also signed and ratified CITES. All three have signed the Basel Convention, and Canada and Mexico have ratified it. The U.S. has not yet ratified this convention.

There have been no trade dispute panel decisions based on a conflict between a trade agreement (GATT or the Canada-US FTA) and an international environmental agreement. However, the possibility exists, particularly from GATT members who are not parties to the environmental agreement in question. Article 104 does not preclude challenges under NAFTA, but does limit a trade panel hearing a dispute concerning one of the specified agreements to an examination of whether the measure in question was the least-NAFTA-inconsistent one available.

4. PROVISIONS REGARDING TRADE IN RESOURCES

Like GATT and the Canada-US FTA, the NAFTA prescribes free trade in resources by limiting the rights of governments to enact measures restricting such trade. Chapter 3 (National Treatment and Market Access for Goods) and Chapter 6 (Energy and Basic Petrochemicals) contain these provisions.

Parties may not increase duties or adopt new ones, with some exceptions (Art. 302). Parties may not "adopt or maintain any prohibition or restriction on the importation of any good of another Party or on the exportation or sale for export of any good destined for" the other Party, except in accordance with GATT Article XI, which is incorporated into the NAFTA (Art. 309). This prohibition includes export and import price requirements. GATT Article XI permits restrictions through "duties, taxes or other charges whether made effective through quotas, import or export licences or other measures" but Article 315 of NAFTA limits this right; such measures are permissable only if also applied to all other parties to NAFTA and to domestic consumption of the good.

Canadian exceptions to these requirements regarding resources include the right to maintain controls on exports of raw logs and some unprocessed fish, some agricultural products including imports of grain from the US, and preferential grain freight rates (Annex 301.3).

NAFTA also limits the powers available under GATT XI:2(a) regarding temporary export restrictions to prevent shortages of food and other essential materials; and under GATT XX(g)(i)(j) which includes measures for conservation of natural resources, a domestic two-price system for essential materials, and acquisition of products in short supply.

Specifically, parties may not reduce the proportion of their production of a given product that is exported below the amount available to another Party in the previous 36 months "or such other representative period as the Parties may agree" (Art. 315). This provision, the "proportionality clause" like Article 409 of the Canada-US FTA, effectively prevents a "Canadians first" policy for all natural resources even in times of shortage. Mexico is exempt from this provision (Annex 315).

3.1 Water[175]

There is no clause in the agreement exempting water exports from these provisions and they are therefore also subject to these requirements. Specifically, water is subject to the same requirements of "National Treatment" of goods as other goods (Art. 301). Nor is there any wording in the NAFTA or pertinent Tariff definitions limiting the definition of water to bottled water. Rather, water appears as item 22.01 in the NAFTA tariff heading as follows:

> Waters, including natural or artificial mineral waters and aerated waters, not containing added sugar or other sweetening matter nor flavoured, ice and snow.[176]

More complete definitions of water exist in the Canadian Customs Tariffs, Revenue Canada Customs and Excise, and in the "Harmonized Commodity Description and Coding System Explanatory Notes", considered to be the official Canadian nomenclature for tariff goods. From the Explanatory Notes, one may conclude that:

---

[175] See Chapter 2 of this report for an analysis of the economic issues related to water export.

[176] Canada, An Act to Implement the NAFTA Schedule, Part A, Schedule I to the Customs Tariff, p. 124; cited in Linton, Jamie, NAFTA and Water Exports, A Submission to the Cabinet Committee on NAFTA of the Government of the Province of Ontario, Ottawa, April 1993.

> This heading (22.01) covers: (A) Ordinary natural water of all kinds (other than sea water - see heading 25.01)[177]

The federal government has argued that this tariff heading does not cover water in river systems as this was not considered a "good" in the commercial sense; further, they have cited the tariff chapter heading, "Beverages, Spirits and Vinegar," to support the view that only bottled water is covered by the heading. However, the interpretation rules accompanying the tariff schedule indicate that such chapter titles are provided "for ease of reference only" and that

> for legal purposes, classification shall be determined according to the terms of the headings and relative Section or Chapter Notes[178]

As Linton notes,

> It has been upheld by recognized and respected Canadian experts in international trade and resource law that naturally-flowing water is indeed covered under tariff heading 22.01. Even the Ottawa law firm that the federal government referenced in the water-trade debate of 1988 has acknowledged this:
>
> "A review of the various Tariff Items in Chapter 22 ....reveals that Chapter 22 is directed at beverages. However, nothing in the wording of Tariff Item 22.01 suggests that the word "waters" is restricted to waters used as a beverage or waters that are not of large scale quantities such as would be required for a diversion.
>
> ".... In conclusion, it is my opinion that any water, other than sea water, would be classifiable under Tariff Item 22.01 regardless of the quantity of water imported and regardless of its use."[179]

---

[177] Cited in Canadian Centre for Policy Alternatives (CPPA), Which Way for the Americas, Analysis of NAFTA Proposals and the Impact on Canada, Ottawa, 1992.

[178] General Rules for the Interpretation of the Harmonized System, listed in NAFTA, Schedule Part A, p. 8, cited in Linton, Jamie, ibid., p. 2.

[179] Linton, ibid., p. 3.

Despite parallel wording in the Canada-US FTA, the federal government included an apparent exemption of water from that agreement in its implementing legislation. Specifically, Section 7 of the Canada-US Free Trade Agreement Implementation Act[180] reads:

> (1) For greater certainty, nothing in this Act or the Agreement, except Article 401 of the Agreement, applies to water.
> (2) In this section, "water" means natural surface and ground water in liquid, gaseous or solid state, but does not include water packaged as a beverage or in tanks.

Section 401 of the FTA refers to the elimination of customs duties on goods.

Mr. Gordon Ritchie, Deputy Chief Negotiator for Canada during the FTA negotiations has argued that the US accepted that exemption, given the wording of the US implementing legislation, and that water is therefore excluded from the ambit of the FTA.[181] By implication, Canadians could protect water from the requirements of NAFTA by including such an exemption in the NAFTA implementing legislation. Such a purported exemption has been included in Section 7 of Bill C-115, An Act to Implement the North American Free Trade Agreement.

For such an exemption to be effective would require that the terms of domestic legislation prevail, in instances of conflict, over the terms of the international agreement. Canadian courts will not apply an international treaty obligation to override federal or provincial legislation. Nor will they apply an international treaty unless it has been enacted into law by the appropriate legislative body.[182]

---

[180] Canada-US Free Trade Implementation Act, R.S.C. 1988, Chap. C-106.

[181] Ritchie, Gordon, Toronto Star, Feb. 11, 1993, and personal communication, February 15, 1993.

[182] See Hogg, Peter, Constitutional Law of Canada, 3rd Edition (1992), especially Chapter 11. In discussing the implementation of treaties within the Canadian federal system, Mr. Hogg concludes that the courts of Canada "will not give effect to a treaty unless it has been enacted into law by the appropriate legislative body." Instead, Canadian courts "will apply the law laid down by statute or common law, even if it is inconsistent with a treaty which is binding upon Canada." Further he notes that "where the language of a statute is clearly and unmistakably inconsistent with a treaty or other rule of international law, then there is no room for interpreting it into conformity with the international rule and the statute must be applied as it stands."

However, in contrast, trade dispute panels, which derive their jurisdictional powers from the trade agreements, are not bound by such domestic legal considerations. In the normal course of their deliberations, they frequently determine whether a given domestic law is consistent with the trade agreement in question.[183] When such a discrepancy is found, the country whose law has been found in conflict is expected to change the law in accordance with the finding of the panel.[184] NAFTA provides in Article 2018 that such action should normally follow upon a dispute panel decision.[185] It is through this process that the provisions of trade agreements may, in fact, take precedence over domestic legislation.

Finally, with regard to the question of water exports,there is no mention of an acceptance of the exclusion of water from the ambit of the FTA in the US implementing legislation, entitled the United

---

The current state of Canadian domestic law appears to be as follows: an international treaty obligation that is inconsistent with valid federal or provincial legislation will not override the federal or provincial legislation.

[183] For example, see the Salmon and Herring case, the US Beer case,both discussed below, and the Tuna-Dolphin case: United States - Restrictions on Imports of Tuna, GATT Doc. DS21/R, 3rd. September 1991.

[184] Countries do not always comply. The US for example continues to negotiate with Mexico in the wake of the GATT panel decision in the Tuna-Dolphin case. Penalties for non-compliance include withdrawal of the benefits and concessions negotiated under the trade agreement.

[185] NAFTA article 2018 specifies:

> 1. On receipt of the final report of a panel, the disputing Parties shall agree on the resolution of the dispute, which normally shall conform with the determinations and recommendations of the panel, and shall notify their Sections of the Secretariat of any agreed resolution of any dispute.
>
> Wherever possible, the resolution shall be non-implementation or removal of a measure not conforming with this Agreement or causing nullification or impairment in the sense of Annex 2004 or, failing such a resolution, compensation.

States-Canada Free-Trade Agreement Implementation Act of 1988[186]. Rather, the section referred to by Mr. Ritchie reads as follows:

> Section 101(b) CONDITIONS FOR ENTRY INTO FORCE OF THE AGREEMENT.- At such time as the President determines that Canada has taken measures necessary to comply with the obligations of the Agreement, the President is authorized to exchange notes with the Government of Canada providing for the entry into force, on or after January 1, 1989, of the Agreement with respect to the United States.

This lack of an explicit exemption for water from the FTA and NAFTA contrasts with the exemptions that do exist for raw log export prohibitions and some exports of unprocessed fish. Had the parties intended an exemption for water, it is reasonable to assume that it would have been included: its absence raises the inference that an exemption for water was not intended by the Parties.

A further difficulty arises if Canadians accept the argument that the American implementing legislation takes precedence over the wording of the FTA, since the US statute includes this provision:

> Section 102 (a) UNITED STATES LAWS TO PREVAIL IN CONFLICT.- No provision of the Agreement, nor the application of any such provision to any person or circumstance, which is in conflict with any law of the United States shall have effect.

One may conclude from this section that the US government does not consider itself bound by the FTA provisions at all. In fact, both parties have, through their use of the dispute panels, accepted the jurisdiction of the panels to review domestic laws in the light of the FTA provisions[187].

This precedence of the FTA wording in trade panel decisions removes any basis for the argument that water has been excluded from the Agreement. It seems clear that should a dispute panel adjudicate on this issue in the future, it will find that water is a good within the terms of the FTA and NAFTA. It follows that management of Canadian water resources is subject to the same FTA-induced constraints that affect all natural resources.

---

[186] United States-Canada Free Trade Implementation Act of 1988, Pub.L. 100-449, 19 USCA para. 2112 nt. (West 1980 & Supp. 1993).

[187] See Chapter 7 of this study for a further discussion of this issue.

4.2 Energy and Basic Petrochemicals

The same scheme for restricting GATT-based import/export control measures is explicitly outlined with regard to energy and basic petrochemical products in the NAFTA (Arts. 603 to 606). However, Mexico is exempt from Article 605, the proportionality clause (Annex 605) and has reserved to the Mexican state many elements of the energy sector, including electricity as a public service and nuclear energy. Private sector participation in services related to energy production will be allowed (Annex 602.3).

NAFTA permits the continuation of incentives for oil and gas exploration and development, as does the Canada-US FTA (Art. 608). NAFTA also permits requirements relating to the Hibernia project, that certain goods and services be sourced in Newfoundland and in Canada, and that the project operator use "best efforts" to achieve specific Canadian and Newfoundland content levels. Canada may also require the transfer of technology to a Canadian company in connection with Hibernia (Annex I, p. I-C-28).

NAFTA gives the terms of the International Energy Program, by which Canada is obliged to share petroleum resources with the US in times of shortage, precedence over the NAFTA (Annex 608.2) "as between Canada and the United States". Since the IEP binds all members of the International Energy Agency, an OECD body, and includes strictly defined triggering mechanisms, a shortage in the US alone may not be sufficient to invoke the IEP requirements.

5. PROVISIONS REGARDING ENVIRONMENTAL STANDARD SETTING

5.1 Sanitary and Phytosanitary Standards (SPS)

This section is subject to the overall requirement that the federal government ensure compliance by the provinces (Art. 105) and by non-governmental standard-setting bodies such as the Canadian

Standards Council, and Canadian Standards Association (Art. 711). This assumption of federal power is new, and did not form part of the Canada-US Free Trade Agreement.

SPS measures are defined broadly and include plant and animal health standards, including pesticides, and as they apply to humans, food additives. Also included are product-related processing or production methods; testing procedures; statistical methods; sampling procedures; risk assessment methods; packaging and labelling related to food safety; and quarantine requirements (Definition, p. 7-43 to 7-44).

Although the word "harmonization" is not used, the chapter outlines a comprehensive approach to the harmonization of these standards by a group of international bodies, including the Codex Alimentarius Commission, the International Office of Epizootics, the International Plant Protection Convention, and the North American Plant Protection Organization (Art. 713). (Details concerning the structure and history of these organizations are provided in Appendix A).

5.1.1 Sovereignty over SPS Measures

In Article 712, the rights of each country to set its own SPS standards are detailed, together with the qualifications on that right (see Appendix E for complete wording of Art. 712).

Countries have the right to adopt any SPS standards necessary to protect human, animal or plant life or health within their own territory, including measures more stringent than international standards, and may establish their own "appropriate level of protection" (Art. 712, Paras. 1,2; Art. 715). They must do so in accordance with the procedures and rules established by the SPS subchapter. Qualifications on this apparently wide power include the need to use "scientific principles," risk assessment, non-discrimination between goods of different parties, application only to the extent necessary to achieve its appropriate level of protection, and no measures that have the effect of creating a disguised restriction on trade.

The wording of these qualifications, some of which echo previous trade panel decisions and standards, requires detailed examination.

a. "in its territory" (Art. 712 para. 1)

A country is limited to enacting only those SPS measures that have effects within its territory. This section effectively codifies the decision in the much criticized GATT tuna-dolphin ruling, in which the US Marine Mammals Protection Act was found incompatible with GATT. It could limit the right of Canada to take protective measures regarding animals or plants that are located outside Canada, but affect health or the environment within Canada. Measures regarding migratory birds and anadromous fish like salmon could be affected.

Since the definition of an SPS measure includes "product-related processing or production method", the wording also raises the issue of extra-territorial impacts of, for example, a ban on import of products to Canada if they contain residues of a pesticide banned for use here.

b. "based on scientific principles" (Art. 712, para. 3)

Although consideration of scientific evidence of environmental and human health impacts is fundamental in environmental standard setting, differing interpretations of any given set of scientific data commonly exist and judgements must be made regarding which interpretation will be relied on.

Policy makers need to exercise judgement based on many factors in setting standards. Scientific evidence or "principles" are not determinative of the questions.

Even after considering the scientific evidence, standard setters still need to decide what level of protection will be set.

Professor David Wirth's comments on the GATT Uruguay Round inclusion of "scientific justification" for SPS standards applies also to the NAFTA wording of "scientific principles":

> ...the Dunkel Draft's "scientific justification" test inappropriately confuses scientific conclusions with social policy choices. While scientific analysis can assist in the technical means for attaining a given level of protection, the choice of level to be achieved reflects societal values as to which science provides little, if any guidance. For instance, a risk

> assessment may help in setting a standard designed to limit the probability that an individual will develop cancer after a lifetime of exposure to a particular chemical substance to no more than one chance in a million. By contrast, the choice of the one-in-a-million goal - as opposed to, say, zero or one-in-a-thousand - is one of public policy. There is also a risk that the Dunkel "scientific justification" test could be interpreted to require a causal connection between exposures and effects, a highly inappropriate standard for environmental and public health decision-making where scientific uncertainties abound and an approach that is inconsistent with many of our domestic environmental and health and safety laws.[188]

c. "based on a risk assessment, as appropriate to the circumstances" (Art. 712, para. 3)

As defined in the NAFTA, risk assessment requires an evaluation of the potential that an unwanted pest will become established within a territory, and its potential associated biological and economic consequences, or the potential for adverse health effects on human or animal health of an additive, contaminant, toxin or disease-causing organism (p. 7 - 43).

Numerous issues arise from this wording. The definition suggests that a risk/benefit analysis, involving a balancing of health impacts against economic factors is not required in each risk assessment. However, "economic feasibility" is a factor to be considered in setting SPS standards (Art. 712, para. 5). This appears to introduce the balancing requirement, as well as adding the uncertainty of "technical..feasibility". These requirements raise the issue of whose assessment of technical and economic feasibility counts. They may provide a basis for a producer who wishes to export into Canada to argue that an SPS standard is insupportable if compliance with it is not feasible for his particular business.

That standards must be "based on" risk assessment also raises the issue of what kind of legal standard will be applied by trade panels in examining whether a measure is "based on" risk assessment; and to what extent measures will need to be "dictated" by the results of the risk assessments.

---

[188] Wirth, David A. Statement and Testimony before the House Committee on Science, Space, and Technology, Washington, September 30, 1992.

Risk assessments must be "appropriate to the circumstances", but when they would be "appropriate" is similarly unclear.

The issue of the role of risk assessment and risk benefit analysis is not a new one to Canada in relation to trade agreements.

The current Canadian law regarding the standard for registration of pesticide, regulations passed pursuant to the Canadian Pest Control Products Act,[189] requires consideration of scientific evidence regarding whether a pesticide may be registered in Canada, but is a health-based standard. The Minister of Agriculture may refuse to register a pest control product if he is of the opinion that the use of the pesticide "would lead to an unacceptable risk of harm to ... public health, plants, animals or the environment".[190]

In contrast, under the US Federal Insecticide, Fungicide and Rodenticide Act (FIFRA),[191] the US EPA must make a threshold finding regarding whether the pesticide in question causes "unreasonable adverse effects on the environment," prior to exercising its regulatory authority to register a pesticide (FIFRA, s.3(c)(5). The EPA may not refuse to register a pesticide for a given use unless the risks of that use outweigh its benefits (s. 2(bb). The Act defines "unreasonable adverse effects on the environment" to mean:

> any unreasonable risk to man or the environment, taking into account the economic, social and environmental costs and benefits of the use of any pesticide.

Because the Canadian standards do not require health risks to be weighed against economic benefits, the Canadian standards for pesticide registration are arguably more strict than those of the US.

---

[189] Pest Control Products Act, R.S.C. P-10, s.1.

[190] Pest Control Products Regulations, s.18, CRC C. 1253 as amended.

[191] Federal Insecticide, Fungicide, and Rodenticide Act, 7 U.S.C.A. paras. 136-136y, (West 1980 & Supp. 1993).

The Canada-US FTA required the harmonization of pesticide standards including "working toward equivalence in ... the process for risk-benefit assessment" (FTA Annex 708.1, Schedule 7).

Canada did conduct a Pesticide Registration Review, which recommended that regulatory decisions be made using a **risk management** approach, involving an evaluation of efficacy, risk assessment and, when appropriate, value assessment. This approach is different from formalized quantitative risk-benefit analysis which numerically weighs risks against benefits. Although "risk management" includes an evaluation of the scientific data package in order to determine the risk of harm to human health, safety or the environment, it entails regulatory decisions of a qualitative nature based on the totality of the evidence.

The recommended changes, if implemented, will provide a Canadian scheme which, like the current Canadian scheme, differs from the NAFTA emphasis on risk assessment. The potential for trade-based challenges to the Canadian scheme exists.

d. "necessary"

SPS measures to be taken are those "**necessary**" for the protection of human, animal or plant life or health, and they can be applied only to the extent "**necessary** to achieve (an) appropriate level of protection, taking into account technical and economic feasibility".

The use of the term "necessary" echoes the wording of Article XX of the GATT (see Appendix D) which permits measures that are non-discriminatory and are not disguised restrictions on trade if they are:

> (b) **necessary** to protect human, animal or plant life or health.

An extensive jurisprudence exists under GATT Article XX regarding measures assessed by trade dispute panels for their consistency with GATT.[192] According to David Wirth:

> ... I am unaware of a single GATT panel report that turns on the interpretation of this word

---

[192] See Wirth, op.cit., fn. 19.

> where the measure in question was held to be consistent with the GATT. The panel reports articulate, variously, a "least GATT-inconsistent" or a "least trade restrictive" test. Quite obviously, the word "necessary " has been interpreted to give dispute settlement panels a roving commission to second-guess domestic measures and to substitute their own judgment as to the desirability of a particular regulatory measure, an analytical approach that in practice virtually assures that a measure whose consistency with the agreement in question turns on this test will not pass muster. And, unlike domestic courts, dispute settlement panels have only one remedy: a conclusion that a particular action is or is not consistent with the regime.[193]

Reviewing the history of what he calls the "mutating 'necessary' test", Steve Charnovitz notes that the term "necessary" received little attention at the meetings where the GATT was drafted, but documentation indicates that disputes under Article XX(b) were to be resolved on the basis of a scientific test.[194] The Canadian government used this reasoning in its intervention in a U.S. court proceeding involving a challenge of a US EPA rule banning the manufacture, importation, processing, and distribution in commerce of most asbestos-containing products.[195] Canada argued that the ban was not supported by sufficient evidence to prove it was "necessary" within the meaning of the GATT and Canada-US FTA, and that the availability of less stringent measures meant the ban constituted an unnecessary obstacle to trade.

The "least GATT inconsistent test," based on the premise that a health-based standard can be considered "necessary" only if there are no alternative measures less inconsistent with the GATT that could be reasonably employed, originated with the Thai Cigarette case.[196] The same type of analysis was used by trade panels which found that the Canadian Fisheries Act Regulation examined in the Salmon and Herring case[197] was inconsistent with the GATT and FTA.

---

[193] Wirth, op.cit. pp. 10-11.

[194] Charnovitz, Steve: Reconsidering the Debate on "GATT and the Environment," Paper prepared for the Ottawa Conference on International Trade and Sustainable Development, 1992.

[195] Corrosion Proof Fittings v. EPA, 947 F.2d 1201 (5th Cir. 1991); Brief for Amicus Curiae Government of Canada at pp. 16-19).

[196] Thailand - Restrictions on Importation of and Internal Taxes on Cigarettes, GATT Doc. 375/200 (Thai Cigarette Case).

A similar test is apparent regarding NAFTA's degree of protection for trade actions taken in accordance with the named international environmental agreements. In the event of inconsistency between the NAFTA and the specific agreements, parties are obliged to choose "among equally effective and reasonably available means of complying with such obligations ... the alternative that is the least inconsistent with the other provisions" of NAFTA (Art. 104).

A "least trade restrictive test" was used in defining "necessary" by a GATT panel in the US Beer Case[198] in a disturbing analysis. The issue in the case was whether state laws requiring that alcoholic beverages be imported by carriers authorized to operate within particular states, could be justified under GATT Article XX (d).

The panel decided:

> ... the United States has not demonstrated that the common carrier requirement is the least trade restrictive enforcement measure available to the various states and that less restrictive measures, e.g. record-keeping requirements of retailers and importers, are not sufficient for tax administration purposes (Id at 5.52).[199]

Further, the panel found justification for its conclusion in holding that since "not all fifty states of the United States maintain common carrier requirements ... some states have found alternative, and **possibly** less trade restrictive, and GATT-inconsistent ways of enforcing **their** tax laws". (Emphasis added)

---

[197] Canada-US Trade Commission Panel: In the Matter of Canada's Landing Requirement for Pacific Coast Salmon and Herring, 1989, (Salmon and Herring Case).

[198] United States - Measures Affecting Alcoholic and Malt Beverages, GATT Doc. DS23/R, February 1992 (US Beer Case).

[199] Ibid. at 5.52.

Charnovitz comments that:

> In other words, the panel concludes that the mere existence of unharmonized states laws shows that alternative methods are available for enforcement.[200]

Panel members did not consider all the possible reasons why such differences might exist: differing tax goals, alcohol policy objectives, effectiveness of various measures in different states, etc.

The "least trade restrictive" test is proposed as the standard to be utilized in the GATT-Uruguay Round proposals regarding the "Standards Code" and the "SPS Decision" on product standards and regulations.

In the light of these increasingly restrictive interpretations of the "necessary" test in trade jurisprudence, the inclusion of this term in the SPS "Basic Rights and Obligations" clause may be expected to act as a significant barrier to a country or province that wishes to set an SPS standard different than those set by the named international standard setters.

e. "disguised restriction on trade"

In applying the tests noted above, trade dispute panels are essentially inquiring into whether the measures in question are "bona fide" environmental protection measures or whether they can, in the opinion of the panel members, be characterized as "disguised restrictions on trade." NAFTA prohibits a party from utilizing an SPS standard "with a view to, or with the effect of, creating a disguised restriction to trade between the Parties" (Art. 712, para. 6), underlining the power of the panels to conduct their inquiries on this basis. The inclusion of "with the effect of" casts the net widely; as with the tests enumerated above, it constitutes a severe restriction on Parties' rights to set their own standards.

f. "in accordance with this Subchapter" and "Notwithstanding any other provision of this

---

[200] Charnovitz, op.cit. p. 15.

Subchapter" (Art. 712, Paras. 1 and 2)

These two paragraphs permit parties to establish SPS measures more stringent than international standards and to establish their appropriate level of protection provided the measures are established in accordance with the SPS subchapter of NAFTA. The establishment of the appropriate levels of protection are protected from challenges based on other sections of the SPS chapter, but not necessarily from challenges based on other sections of the agreement; such protection would have flowed if the wording in question were "Notwithstanding any other provision of this agreement ..."

In summary, the wording of the NAFTA which establishes Parties' rights and obligations regarding SPS measures contains considerable uncertainty and in the light of previous trade panel decisions, significant constraints on the rights of Parties to set standards different from international standards.

The overall approach to the use of international standards is to be based on use of "equivalence" of standards, which the Parties will attempt to achieve without reducing the level of protection of health. (Art. 714, para. 1). Each party is entitled to establish its "appropriate level of protection", and in doing so, "should take into account the objective of minimizing negative trade effects" (Art. 715, para. 3). The introduction of a trade objective into the decision-making process for establishing levels of protection is another indication of the primacy of trade considerations in the agreement, but the use of "should" rather than "shall" in the section reduces the likelihood of a successful trade challenge to an SPS standard on this basis alone.

Parties "shall" consider economic factors when establishing the chosen levels of protection, including "the relative cost-effectiveness of alternative approaches to limiting risks" (Art. 715, para. 2 (c)).

Parties "should" consider other parties' proposed or actual SPS standards in developing new ones (Art. 714, para. 4), may establish provisional measures prior to receiving sufficient scientific evidence to complete its risk assessment, and may, at the request of another Party, phase in the implementation of the measure (Art. 715).

5.1.2 NAFTA Processes for Developing SPS Standards

Federal government standard setters are required, when proposing to adopt or modify an SPS measure, to provide notice to other parties and consider any comments they may wish to submit. Federal authorities are also required to "seek, through appropriate measures,to ensure" that provincial governments follow the same process. (Art. 718) Presumably, in Canada, the "appropriate measures" would entail federal-provincial consultation. If Ontario agrees to these procedures, more resources may be required at the provincial level.

Overall, the inclusion of this requirement not only for the adoption of new SPS measures but also regarding modification of current ones may mean a significant degree of involvement of foreign governments in the standard-setting process in Canada. If the NAFTA is implemented and countries throughout the hemisphere accede, the resource implications of the notice and consultation requirements may become considerable.

The agreement also provides for a Committee on Sanitary and Phytosanitary Measures, with representatives from each country, to "facilitate the enhancement of food safety and improvement of SPS conditions in the territories" of the three countries, using consultations between the Parties and with experts (Art. 722).

International Bodies named as SPS Harmonizers include Codex Alimentarius, the International Office of Epizootics. the International Plant Protection Convention, and the North American Plant Protection Organization (See Appendix A for details concerning these bodies).

Public access to all these bodies is very limited. The Codex restricts public access to those who are associate members. The International Office of Epizootics and International Plant Protection Convention permit no public access. The North American Plant Protection Organization permits representatives of national or international organizations and agricultural groups concerned with plant health to attend meetings.

5.2 Standards: Technical Barriers to Trade (TBT)

(Standards related measures)

This section of NAFTA applies to standards-related measures (SRMs) other than sanitary and phytosanitary measures (Art.901) and includes a wide range of environmental standards. Examples include regulations regarding auto emissions, pulp and paper effluent, hazardous waste management, fisheries, conservation, etc.

The federal government is not required to **ensure** compliance of provincial governments with this chapter, but it is required to seek compliance "through appropriate measures," as it is with regard to notice requirements for provincial SPS measures (Art. 902).

5.2.1 Basic Rights and Obligations Regarding Standards-Related Measures

As is true with regard to SPS standards, the intent of this chapter is to establish a comprehensive approach to harmonization of technical standards, including those pertaining to environmental and consumer protection and human, plant, and animal health. A broader right is left to the individual parties to set their own standards than is true of SPS standards, but it remains a qualified right.

Specifically, parties may establish levels of protection as they consider appropriate (Art. 904, para. 2), and may set standards higher than those of international standards (Art. 905, para. 3). They may not set standards with the intention or effect of creating an unnecessary obstacle to trade; this requirement echoes GATT Article XX. Such an obstacle will be deemed not to be created if:

> the demonstrable purpose of such measure is to achieve a legitimate objective; and
>
> such measure does not operate to exclude goods of another Party that meet that legitimate objective (Art. 904, para. 4).

Significantly, the definition of "legitimate objective" includes safety, protection of human, animal, or plant life or health, the environment or consumers, and sustainable development (Art. 915). Although the FTA includes "health, safety, essential security, the environment, or consumer interests" as legitimate domestic objectives (FTA Article 609), NAFTA is the first trade agreement to include" sustainable development" in the definition. This has the potential to provide protection for a broad range of differing standards, if in the event of challenge, trade dispute panels interpret the provision liberally.

5.2.2 Qualifications

However, as the right to set appropriate levels of protection operates "Notwithstanding any other provision of this Chapter" (Art. 904, para. 2) and not "Notwithstanding any other provision of this **Agreement**", the use of the "Nullification and Impairment of Benefits" provision to challenge a standard still exists. In fact, this is made explicit in Annex 2004 which permits a challenger of a TBT measure to go to dispute settlement based on this wording even if the measure in question is consistent with the terms of NAFTA. This Annex provides that parties may challenge a standard that is consistent with NAFTA if it "nullifie(s) or impair(s)" a benefit the party "reasonably" expected to gain under NAFTA.

Similarly, the wide protection given to protective measures would presumably not extend to resource export bans as a conservation measure, even as a component of sustainable development or environmental protection. Such actions would contravene provisions of Chapters 3 and 6 rather than provisions within this Chapter.

The question remaining is whether, given this limitation, these provisions would have led to a different result in such disputes as the Canadian Salmon and Herring Case and more broadly, whether these provisions will provide a higher level of environmental protection than has occurred in trade decisions based on GATT Article XX (b) and (g) as interpreted also under the Canada-US agreement.

5.2.3 NAFTA Technical Barriers Procedures

The parties have committed to working jointly to "enhance" environmental and health and safety levels through making their standards compatible, and may use risk assessment in standard setting (Art. 906 and 907). They will also seek to make conformity assessment compatible and co-operative amongst the three countries (Art. 908). Federal authorities will be required to provide notice and opportunities for comment to other parties when proposing a new or modified standard.

Article 909, paragraph 6 provides:

> Where a Party allows non-governmental persons in its territory to be present during the process of development of standards-related measures, it shall also allow non-governmental persons from the territories of the other Parties to be present.

This would appear to give broad rights of consultation to "stakeholders" in all three countries to become involved in standard-setting in the other countries.

Although this chapter is not subject to Article 105, which requires that the federal government "ensure" compliance by provincial governments, it clearly envisions a considerable right of involvement by other governments in provincial practices concerning standard-setting. This is to be achieved by the federal governments through "appropriate measures" at the provincial level. These rights include rights of notification of new or amended standards (Art. 909, paras. 2 and 3), and changed application of standards (para. 7) and permitting participation by non-governmental persons from other territories as specified for federal standard-setting. Environmental protection is an area of shared provincial and federal jurisdiction in Canada. The possibility of constitutional disagreements exists, should provincial governments decline to co-operate with any federal attempts to obtain compliance with these provisions.

The policy and resource implications of these requirements are very significant. They may involve considerable expense. In an era when environmental decision-making often involves multi-stakeholder processes, it provides a basis for non-Canadian businesses to require inclusion in these processes.

Canadians will have the same rights in foreign processes. Though it presumably provides the same rights to other foreign citizens and citizen groups, few will have the financial resources to utilize the right. It will mainly benefit large multinational corporations, with their financial and locational advantages.

The Parties have committed to establishing a Committee on Standards-Related Measures and a series of sub-committees, with mandates that include many subjects important in environmental protection. These include:

- Land Transportation and Automotive Standards Subcommittees, whose mandate will include emissions and environmental pollution levels and transportation of dangerous goods (Art. 913, para. 5 and related Annexes)
- packaging and labelling
- accreditation of conformity assessment bodies
- chemical hazard classification and communications
- enforcement programs
- good laboratory practices
- good manufacturing practices
- criteria for assessment of environmental hazards of goods
- risk assessment methodologies
- testing of chemicals, including industrial and agricultural chemicals, pharmaceuticals and biologicals.

Although the agreement internationalizes consultation where it now exists, it provides no rights of public access to these new committee processes, and no provision of information to the public. In this sense, it is likely to foster disputes between Canadian environmentalists and their provincial and federal governments if, in contrast to current Canadian processes, environmentalists find themselves shut out of standards decision-making.

The overall sweep of the harmonization initiatives in the TBT chapter, as in the SPS chapter, will potentially result in a very different approach to standard setting from the one now used in Canada.

6. INVESTMENT

In the public debate concerning NAFTA, concern has been expressed that free trade with Mexico will permit corporations to move investment to the jurisdictions that have the lowest levels of environmental protection, including Mexico and some American state jurisdictions. In response to this concern, environmentalists called for provisions in the NAFTA to prevent such moves. This was not achieved, and the "Investment" chapter merely discourages government policies designed to foster the practice. Specifically, Article 1114, paragraph 2 states:

> The Parties recognize that it is inappropriate to encourage investment by relaxing domestic health, safety or environmental measures. Accordingly, a Party should not waive or otherwise derogate from, or offer to waive or otherwise derogate from, such measures as an encouragement for the establishment, acquisition, expansion, or retention in its territory of an investment or an investor. If a Party considers that another Party has offered such an encouragement, it may request consultations with the other Party and the two Parties shall consult with a view to avoiding any such encouragement.

The agreement does not prohibit encouragement of investment through relaxing of environmental issues, nor would a party apparently have recourse to a trade dispute panel to raise such an issue. The clause provides for consultations only. Nor does it prevent shifts in investment due to existing differences in environmental standards and enforcement.

7. INTELLECTUAL PROPERTY RIGHTS

The NAFTA provides protection for intellectual property, an issue excluded from the Canada-US FTA. Environmental concerns arise from the provisions regarding patenting of life forms, and the possible long-term effects on agriculture and biodiversity. The agreement permits exclusions from patentability for inventions when:

> necessary to protect ordre public or morality, including to protect human, animal or plant life or health or to avoid serious prejudice to nature or the environment, provided that the exclusion is not based solely on the ground that the Party prohibits commercial exploitation in its territory of the subject matter of the patent (Art. 1709).

Parties may also exclude from patentability treatments for health, "plants and animals other than micro-organisms" and "essentially biological processes for the production of plants or animals".

However, Parties are required to provide for the protection of plant varieties through patents, an effective scheme of sui generis protection, or both (Art. 1709).

Canadians are currently most familiar with the impacts on pharmaceuticals, and the move to longer patent protection of drugs, justified by the federal government in terms of the future requirements of the Intellectual Property section of NAFTA. The federal government has also passed plant breeders' rights protection. However, concerns have been expressed regarding the environmental impacts, particularly on agriculture, of these provisions and of future implications of life forms patentability.

As one analyst has argued:[201]

> ... the legislative history in industrialized countries shows clearly that plant variety rights lead to exclusive monopoly rights over microbials and then animals. In a technology where fish and insect genes are inserted into crop plants and human genes are inserted into mice, pigs, sheep and goats, the "natural barriers" between - not only species - but biological kingdoms are broken down. Life is homogenized.

Further,

> Life form patents will result in farmers being denied their traditional rights to save seed [because] planting seeds without paying royalties is making an unauthorized copy of a patented product. Farmers will be forced to pay royalties for every seed and farm animal derived from patented stock, forced to become more dependent on fertilizers, pesticides, herbicides, and the machinery made by the same companies who collected the traditional seeds in the first place and now sell back the chemically-dependent derivatives.[202]

Mooney also argues that the leading companies in private biotechnology research are predominantly pharmaceutical manufacturers, which are also leading pesticide and seed companies. They concentrate on producing pesticide-resistant plant varieties, to be produced with the use of their herbicides. The environment would be better protected by the development of pest-resistant plant species which could lead to a reduced use of pesticides in agriculture.

---

[201] Pat Mooney, quoted in Canadian Centre for Policy Alternatives, op.cit., pp. 39-40.

[202] Canadian Centre for Policy Alternatives, op.cit., p. 40.

8. DISPUTE SETTLEMENT PROCESSES

As in the US-Canada Agreement, all parties are entitled to retain their antidumping and countervailing duties laws, and to amend them in a manner consistent with GATT and the free-trade principles of NAFTA (Art. 1902). Domestic judicial review of decisions made under these laws is replaced by binational panel review (Art. 1904). The parties intend further consultations including on the "potential for more effective rules and disciplines concerning the use of government subsidies" (Art. 1907).[203]

As noted above, further dispute processes are provided in Chapter 20 to be used for trade disputes including claims of nullification and impairment of benefits (Art. 2004, Annex 2004). Thus, dispute panels may hear complaints that measures "**that (are) not inconsistent with this Agreement**" but deprive a party of a benefit it could have reasonably expected to accrue to it; subject areas for which the right exists include most provisions regarding trade in goods (Part 2 of NAFTA), the Technical Barriers to Trade section, and intellectual property.

Unlike the Canada-US FTA, certain dispute provisions of the NAFTA apply specifically to disputes involving environmental issues.

Though complaining parties can generally use the NAFTA dispute process or the GATT one, a responding party may require that the NAFTA process be used if it involves issues of sanitary or phytosanitary standards, or other standards related measures (Art. 2005, para. 3, 4).

In such challenges, the party asserting that an SPS measure or other standards-related measure is inconsistent with their respective chapters of NAFTA will have the onus of showing the inconsistency (Arts. 723, para. 4, and 914, para. 4). This provides more support for the standards provisions than occur in disputes where GATT Article XX is invoked to defend an environmental standard. Whether the effect of the provision is significant remains to be seen. Normally, the onus of proof only plays a determinative role in legal cases that are evenly balanced, and trade disputes have not, to date, demonstrated such a fine balancing of evidence and law.

---

[203] See Chapters 6 and 7 for a discussion of binational panel reviews under the FTA.

Scientific review boards may be convened, at the request of a trade panel (with the agreement of the parties) or at the request of a party "on any factual issues concerning environmental, health, safety or other scientific matters" raised by a party (Art. 2015). Such panel members are to be selected from "highly qualified, independent experts" after consultations with the parties and scientific bodies. Parties may provide comments to the science board and comments on its report to the panel. The panel is required to take its report into account.

However, as in Canada-US disputes, no public access to the entire process is permitted, nor is there any opportunity for public notice or participation:

> The panel's hearings, deliberations and initial report, and all written submissions to and communications with the panel shall be confidential (Art. 2012, para. 1).

Panels are not to disclose which panellists are associated with majority and minority opinions (Art. 2017, para. 3). As noted above, NAFTA also specifies what actions Parties should take after a dispute panel decision has been reached: normally, the elimination of the contested measure, or compensation to the complaining party (Art. 2018).

The NAFTA dispute provisions may result in more positive consideration of environmental concerns in dispute processes. It is to be hoped, for example, that scientific panels will be more receptive to the need for resource conservation measures than dispute panels have been in the past. However, the impact of the provisions will only be as strong as the wording of the substantive provisions that will be interpreted in each trade dispute.

The dispute processes depart radically from processes common to the Canadian legal system: public trials, citizens' rights of intervention, attribution of majority and minority judicial reasoning, and accessibility for all levels of government.

Given that national and provincial rights to set standards are qualified, subsidies issues have not been resolved, and the resource-sharing language of the agreement is like that of the Canada-US FTA, important limitations on environmental protection powers have been perpetuated in NAFTA.

9. SUPPLEMENTARY AGREEMENTS

NAFTA was negotiated by the American Bush administration, but the approach of the Clinton government has been to favour passage of NAFTA with "supplementary agreements" on environmental and labour issues. As the process of negotiation of these side agreements is not yet completed, it is not possible to evaluate their likely impacts.

However, since all three countries have agreed that the terms of NAFTA will not be amended, the environmental implications identified in this chapter will continue to flow from the agreement, if it is passed by all three legislatures and implemented.

In both the US and Canada, environmental groups have contributed comments to the negotiation process of the side agreements. Canadian environmentalist Janine Ferretti has advocated a North American Environment Commission (NACE) with powers to audit environmental performance of the three countries, investigate complaints raised by citizens, ensure enforcement of domestic environmental laws and international agreements, monitor emerging problems, and facilitate transfer of technologies and access to funding for environmental protection. She has also proposed that the Commission have functions related to the environmental provisions of NAFTA, and that it be involved in the dispute panel process under the agreement.[204]

Other Canadian environmentalists have expressed objections to the assumption that the proposed Commission could "fix" environmental problems flowing from NAFTA. In a letter to Michael Wilson, former Minister of International Trade, eighty Canadian environmental groups expressed opposition to NAFTA and said, regarding the side agreement and North American Commission on the Environment (NACE):

> In our view, the negotiation of supplemental agreements, and the establishment of NACE, represent a smoke-screen, intended to obscure the fact that the trade policy goals of NAFTA are fundamentally incompatible with environmental objectives. Moreover, many of the provisions of NAFTA itself are irreconcilable with environmental protection and resource conservation, and need to be fundamentally redesigned. On the key point of renegotiation however, Canada, Mexico and the United States are adamant that NAFTA not be reopened.
>
> Creating a new environmental bureaucracy to oversee, and comment on, the disastrous environmental consequences of NAFTA as written, is not useful. Given the wording of the NAFTA, it is not possible for a Commission to correct the ecological problems fundamental to it.[205]

The actual proposals for the side agreements from the three countries contain few of the elements proposed by environmentalists, and the three countries' positions are widely divergent.[206] The public debate in the US has been dominated by discussions of whether trade sanctions will be available, through the environmental side agreement, in support of environmental enforcement, an approach not favoured by Canada and Mexico.

The Clinton administration hopes to complete the side deals by August of 1993, in order to submit the NAFTA "package" to Congress this fall.

---

[204] "Elements of an Effective North American Commission on the Environment", Janine Ferretti, March 4, 1993.

[205] Letter of May 5, 1993 to Michael Wilson, then Minister of International Trade, signed by 80 Canadian environmental groups.

[206] For the complete U.S. and Mexico opening proposals for the NAFTA Environmental Pact, see Inside U.S. Trade: Special Report, May 21, 1993; for the Canadian proposal, see Inside U.S. Trade: Special Report, May 24, 1993.

10. CONCLUSION

- The NAFTA perpetuates the environmental problems of the Canada-US Free Trade Agreement, and creates new ones.

- Although it provides partial protection to trade actions taken pursuant to three international environmental agreements, the protection is limited.

- The agreement does not prevent countries from lowering environmental standards or enforcement in order to attract investment.

- NAFTA continues the problems regarding strategies for resource conservation that flow from the requirements for National Treatment, the "proportionality clause" and trade panel decisions under GATT and the US-Canada FTA. These barriers to conservation policies affect all Canadian resources including water.

- The agreement establishes a new approach to environmental standard setting, different from current Canadian and Ontario practice. Many standards are to be set by unaccountable international bodies and no provisions for public participation in the processes exist in the NAFTA. The rights of national and provincial governments to set more stringent standards are qualified. NAFTA codifies tests used by previous trade panels, such as the "necessity" test, that have led to the loss of environmental standards. Notice and consultation requirements for the federal and Ontario governments may have considerable resource implications.

- Canada-US subsidy disputes have not been addressed or resolved in NAFTA.

- The NAFTA dispute processes are secret and provide no right of access to provincial governments and to the public.

Chapter 5

Environmental Regulation and Natural Resource Implications of the Draft Final Act of the GATT Uruguay Round of Multilateral Trade Negotiations

by Zen Makuch

1. INTRODUCTION

The draft Final Act (also known as the "Dunkel Draft") embodying the results of the Uruguay Round of multilateral trade negotiations comprises a document of some 450 pages in length with 28 separate sections including four Annexes (for the Table of contents see Appendix 'A' attached hereto). It has been suggested by GATT officials that the GATT Uruguay Round does not intend to deal with environmental issues in the final text.[207] GATT has stated that it will address trade and environment linkages subsequent to the conclusion of the Uruguay Round. This was one of the reasons for activating a GATT Working Group on Environmental Measures and International Trade. However, there are several provisions in the Uruguay Round text which impact directly upon environmental regulation and natural resource conservation areas.

The GATT Secretariat has stated that there will be small additional changes to the draft Final Act text which was tabled on December 20, 1991. It is anticipated that these changes will take place in the areas on which there is still substantial disagreement. They include ongoing market access negotiations, the trade in natural resource-based products, tropical products (texts unavailable), agriculture (aside from the "Sanitary and Phytosanitary Agreement") and textiles and clothing. Once the negotiations are complete the draft Final Act will be available for domestic ratification by the Parties. In Canada, this is normally achieved through the passage of appropriate implementing legislation by Parliament.

---

[207] This was communicated to the author by Richard Blackhurst, Director of Economic Research, GATT, and Janet Chakarian, policy advisor, GATT, Geneva, Switzerland, in February 1992.

2. SEVEN GENERAL TRENDS

The following introductory paragraphs provide a preliminary identification of the areas of text which have implications for environmental regulation and natural resource conservation issues. At present, it is incomplete as certain sections remain to be negotiated. They include the chapters on natural resource-based products, tropical products and agriculture. The remainder of this introduction will offer a brief description of seven developments with environmental implications which are evident in the text of the draft Final Act. The rest of the chapter elaborates upon the seven developments through a detailed textual analysis of the relevant sections of the draft Final Act.

National Sovereignty Over Resource Policy

First, there is the significant matter of national sovereignty over natural resource management issues. Thus far, GATT negotiations are ongoing with respect to the issues of tariffication and market access as they apply to trade in natural resource commodities, more specifically, agriculture, forestry products, minerals, fisheries and tropical timber. The language being negotiated in these areas is not included in the draft final text. Given GATT's predisposition towards multilateral rather than unilateral regulation over sustainable natural resource issues, it is likely that federal and provincial authority to legislate and set policies will be limited over the matters of sustainable management and/or protection of domestic and international natural resources. For instance, any attempts to limit unsustainably produced raw logs through export controls would likely be ruled GATT-illegal according to the provisions which are presently on the table with respect to the trade in natural resources. This can be analyzed further once the text on natural resource commodities is finalized during the GATT Uruguay Round negotiations.[208]

Multilateral Trade Organization

Canada has been among the nations which have taken the most aggressive stance in pushing for the creation of a Multilateral Trade organization (MTO), an institution which would have powers that are separate from those held by dispute resolution panels under the old Tokyo Round General Agreement on Tariffs and Trade as far as the enforcement of GATT rules is concerned. These powers are described in Article III of the Agreement Establishing the Multilateral Trade Organization.[209] The MTO proposed in the draft Final Act will be granted the power over an enhanced administration and enforcement regime for GATT provisions.[210] Given the decision of GATT Uruguay Round negotiators to postpone discussion of environmental considerations until the completion of the negotiations, strengthened GATT enforcement powers and techniques will be utilized in the absence of those provisions that would lead to greater protection for environmental measures in the face of trade challenges.

The structure of the draft Final Act is composed chiefly of new international codes in such areas as domestic policies for agriculture, technical barriers to trade, sanitary and phytosanitary standards, subsidies, investment, services and patents and copyrights, trade in natural resources, tropical products, and textiles and clothing.[211] It will be left to the MTO to enforce such codes. Since the codes have been negotiated without direct consideration of their environmental impacts the enforcement of such codes will also take place without regard to their environmental impacts. This may lead to restrictions on sovereignty over provincial, state, and national environmental regulations in the underlined areas above with consequential environmental impacts. There is further reason for concern in this area owing to an MTO proposal which instructs its members to "take all necessary steps, where changes to domestic laws will be required to implement the provisions ... to ensure conformity of their law with these Agreements."[212] It is stated that the MTO "shall enjoy in the territories of each of the members such legal capacity, privileges and immunities as may be necessary for the exercise of its functions."[213]

---

[208] At the time of writing, GATT Uruguay Round negotiations have been stalled by an ongoing dispute between the United States and the European Economic Community over agricultural subsidies. For this reason it is not known when the text on natural resource commodities will be released.

[209] Dec. 20, 1991, Final Act, p. 92, Article III.

[210] Dec. 20, 1991, Final Act, p. 93, Articles IV and V.

[211] Dec. 20, 1991, Final Act, p. 92, Article III, Annexes 1-4.

It is also of some consequence that the MTO will operate under an Integrated Dispute Resolution system which allows cross retaliation between provisions of the above agreements. For instance, restrictions on Canadian wheat exports (goods) could be allowed as a punitive measure to counterbalance Canadian restrictions on domestic market access for foreign telecommunications industries (services). Unlike the present GATT, the MTO will have a "legal personality" which gives it the power of jurisdiction in each member nation to rule on any domestic privileges and immunities consistent with its functions. Global multilateral action against transgressors will be more likely under an MTO regime because of the functions and status accorded to the MTO in Articles III and VIII of the MTO Agreement. In addition, unlike the existing GATT, the GATT Uruguay Round provides an institution (the MTO) to enforce codes which were previously non-binding. This could place serious constraints on any opportunity undertaken by the Ontario government to forge an independent path in any area of environmental regulation which has trade implications.

Under the present GATT the provisions of codes such as the Agreement on Technical Barriers to Trade are not legally binding upon Parties (and, therefore, their environmental regulators) if any Party to a dispute does not agree to such application. Article 15.12 provides that:

---

[212] Dec. 20, 1991, Final Act, p. 95, Article VIII.

[213] Dec. 20, 1991, Final Act. p. 92, Article XVI, para. 4.

> This agreement shall not apply as between any two Parties if either of the Parties, at the time either accepts or accedes to this Agreement, does not consent to such application.

As well, section 14.23 of the Agreement on Technical Barriers to Trade provides that when a dispute is raised through the nullification and impairment provisions of Article XXIII, any dispute determination thereunder must be based on GATT provisions only, not GATT Codes. Under the MTO, enforcement of the new Codes would be legally binding.[214] It is important to note that, even if the U.S. agrees to the draft Final Act it may allow U.S. federal laws to prevail over GATT provisions in its implementing legislation. This is the approach which it took in its implementing legislation for the Canada-U.S. Free Trade Agreement.[215] For an analysis of the environmental implications of legalizing these Codes see, for example, the portions of this paper dealing with Sanitary and Phytosanitary Standards and Technical Barriers to Trade.

New Dispute Resolution Process Rules

The dispute resolution provisions provide for automatic, permanent adoption of GATT dispute panel decisions within 60 days of their publication, subject to the proviso that either an appeal is filed or that all GATT nations reject the decision unanimously.[216] Appeals must be filed within 60 days of the GATT dispute panel decision and any appellant decision will be automatically accepted unless all nations unanimously agree to reject a decision within 30 days of its release.[217] Whereas previously there was a means of avoiding GATT dispute panel decisions temporarily using current GATT rules, this will no longer be the case if the draft Final Act is adopted in its present form.

For environmental regulators, this will mean even stronger international force will be brought to bear on the matter of compliance with a GATT decision even if such a decision strikes down a widely-supported environmental law. For example, the GATT Tuna-Dolphin decision handed down in August, 1991 has still not been adopted by GATT contracting parties. The GATT decision strikes down certain provisions of the U.S. Marine Mammal Protection Act which are designed to protect dolphins from Mexican tuna harvesting practices. This dolphin protection law is widely supported by the American public, yet GATT contracting parties are seeking to have the law stricken from U.S. environmental regulations.

---

[214] Dec. 20, 1991, Final Act, p. 92, Article III, Annexes 1-4.

[215] An Act to Implement the United States - Canada Free Trade Agreement 102 STAT.1851 section 102.

[216] Dec. 20, 1991, Final Act, S.12, Article XIV, para. 4.

[217] Dec. 20, 1991, Final Act, S.12, Article XIV, para. 4.

Under present GATT rules, Article XXII offers an informal settlement process which utilizes the GATT Secretariat to provide its good offices. Using this provision, bilateral negotiations have taken place between Mexico and the United States. This process has resulted in a commitment by Mexico to introduce measures which make its tuna fishing methods much more dolphin safe. Ongoing negotiations have resulted in sound solutions to the dolphin conservation problem.

According to the provisions of the draft Final Act the future resolution of environmental losses due to trade rulings by this means will be difficult to achieve. New obstacles to this form of negotiation include the "automatic adoption" requirements discussed above for both initial decisions and appeals.[218] There is the further requirement that any dispute resolution process must be completed in nine months.[219] Whereas previously, parties to a dispute could postpone adoption of a dispute panel decision despite the wishes of other GATT contracting parties, the new tighter time lines and "automatic adoption" provisions render bilateral negotiations virtually obsolete.

International Standard Setting

The draft final text carries the procedural impediments towards environmental protection even further than the present GATT provisions by allowing politically unaccountable trade representatives to have future decision-making power over matters such as food safety and animal and plant protection.[220] Rule setting and dispute resolution will continue to occur in secret, leaving out public participation, non-government organization participation and provincial government participation except to the extent that the federal government permits provincially derived arguments to be translated into the national position in a particular dispute. For example, in the most recent round of GATT disputes over the environmental levy on non-refillable alcoholic beverage containers the Canadian position was established by the Government of Ontario.[221]

---

[218] Dec. 20, 1991, Final Act, S.12, Article XIV, para. 4.

[219] Dec. 20, 1991, Final Act, S.23, para. 15.5.

There is the further problem that the GATT text puts the burden of proof on nations (provinces) defending environmental laws from GATT provisions.[222] For instance, if the provincial government wished to pass a regulation requiring importers of a particular commodity to use the same packaging mandated for products produced in Ontario and this were brought before the GATT dispute resolution panel, it would be up to Ontario to prove that such a law was not an unfair trade barrier (assuming the federal government would permit such provincial participation in the dispute resolution process).

The degree of participation by the province would be influenced by its relationship with the federal government. This is largely a political rather than a legal question. However, it should not be forgotten that in the event that a provincial environmental measure is struck down by a GATT panel it is incumbent upon the federal government to ensure that provincial laws are brought into accordance with GATT law.[223]

---

[220] Codex Alimentarius Commission has been chosen for food standards (see Dec. 20, 1991, Final Act, L.46, Annex 1, para. 3); The International Office of Epizootics has been named as the GATT accepted standard setter for animal health law; The International Plant Protection Convention is named for plant health protection (see Dec. 20, 1991, L.46, Annex A, para. 3).

[221] Personal communication between the author and staff with the Minister's Offices for each of Treasury and Environment.

[222] Dec. 20, 1991, Final Act, s.3, para. 1.8.

[223] Dec. 20, 1991, Final Act, L.43, para. 45. Dec. 20, 1991, Final Act, G.5, Article 3, para. 3.5. Dec. 20, 1991, Final Act, S.18, para. 20.7.

Under GATT rules the best means of protecting a measure which impacts favourably upon environmental considerations (i.e. Ontario's levy on non-refillable alcoholic beverage containers) is to ensure that it is consistent with Articles I and III concerning "most favoured nation treatment" and "non-discrimination" principles respectively. Article XX provides a narrowly defined exception from GATT rules by allowing a contracting party to place health, safety or domestic resource conservation goals ahead of "non discrimination" but only when certain conditions are fulfilled. These conditions require that the measure used is necessary to achieve the goal and that it does not reduce competition from imports.

In the hypothetical case of a provincial law requiring that motor oil for individual consumers be sold in plastic containers with 40 per cent recycled plastic content, it would be difficult to invoke the Article XX exception owing to the difficulty of establishing that it would not hamper market share for imports from nations which do not have the necessary infrastructure to recycle plastic. Hence, the argument could be made against the regulation that it is designed to favour domestic producers which already have plastics recycling facilities. There is the further problem that at the time Article XX was drafted, it was not intended as an "environmental protection" measure. The legislative history of this provision establishes that Article XX was intended to protect "quarantine and other sanitary regulations."[224] Hence, it may be difficult to justify Article XX protection for such a packaging initiative by a strict interpretation of language and intent.

Status of Provincial Regulations

The GATT final draft text brings forward a new rule known as the "preemption rule" which could have a negative impact on provincial policy making in the environmental purview. That rule stands for the principle that signatory countries must take positive measures to bring sub-federal (read provincial and local) governments into compliance with GATT provisions.[225] In the Canadian context such a rule would require that the federal government assume responsibility for the comprehensive preemption of provincial and sub-provincial (i.e. regional municipal and local municipal - among other local government) standards. Like the federal government's constitutional proposal for an economic union this might require that provinces and the federal government engage in a standard setting exercise which respects the standards set internationally. The federal government is not restricted to using this approach in ensuring sub-federal regulatory compliance since the draft Final Act does not prescribe any particular process. As a result, it is not known how the federal government will fulfil this responsibility.

---

[224] GATT. Analytical Index: Notes on the drafting, interpretation and application of the Articles of the General Agreement. Third rev. ed. Geneva: The Contracting Parties to the General Agreement on Tariffs and Trade, 1970, p. 116.

At the very least, this would mean that future standard setting exercises related to the Codes developed pursuant to the Uruguay Round would require that the federal government conduct a review of provincial standards. To the extent that an Ontario standard constitutes a trade barrier by comparison to the internationally set standard, in its opinion the federal government is required to ensure that the provincial standard is in line with the internationally set standard. This could serve to challenge Ontario's traditionally independent role in initiating progressive environmental regulation within Canada.

Inclusion of the "Extraterritoriality" Principle

Further damage is done to environmental protection efforts through the draft GATT text's codification of its dispute resolution panel decision overruling the 1990 U.S. ban on selected tuna imports under the Marine Mammals Protection Act.[226] This ruling, handed down on August 21, 1991, stands for several propositions which have since been firmly engrained in the GATT draft final text. For example, the text is now consistent with the ruling in that it will prohibit nations from enforcing environmental laws that reach beyond their respective borders.[227]

---

[225] Dec. 20, 1991, Final Act, L.43, para. 45.

[226] United States Restrictions on Imports of Tuna, (Report of the Panel), (Nov. 1991) XXX No. 6 International Legal Materials, 1598.

Arguably, any form of environmental regulation which seeks to cover imports or exports would fall under attack on the basis of the principle that extraterritorial applications of domestic (environmental) law are GATT-illegal. In other words, it will likely be GATT-illegal to limit domestic market access for imports on the basis of the environmental practices or production processes of the exporting nation unless such limitation is treated as exempt from GATT rules on the basis of Article XX.[228] Regulation of importers only extends as far as taking measures to eliminate the negative domestic environmental effects of consuming imported products.

Even under the existing GATT, any form of environmental regulation which affects common resources (i.e. those shared by countries) would also be ruled GATT-illegal if the Tuna-Dolphin decision is adopted by GATT contracting parties.[229] Ontario may directly experience the ramifications of such principles in view of its support for existing and future international environmental conventions (consider the Montreal Protocol, the Convention on International Trade in Endangered Species, the Basel Convention, etc.).

Any legislative initiative which ratifies an international convention by allowing trade sanctions as remedies (or which has an impact on trade in general) would likely suffer under a challenge brought by the provisions of the draft final text or even the GATT as it presently stands. For example, the Montreal Protocol, an accord devised to deal with the transboundary phenomenon of ozone layer depletion, would have to comply with GATT principles in its implementation. It is GATT-illegal to the extent that it allows differential treatment between participating and non-participating signees where such signees are also GATT members. The Protocol provision allowing extra profits from selling a diminishing quantity of CFCs violates the "non-discrimination" principle in Article III of the GATT by not affording this same advantage to non-participating countries who are also GATT members. Given the very narrow opportunities for invoking the Article XX exception, it is unlikely that the offending portion of the Montreal Protocol would survive an Article III GATT challenge.

---

[227] See for example, Dec. 20, 1991, Final Act, L.45, Annex A, para. 1.

[228] The General Agreement on Tariffs and Trade, Article XX.

[229] op.cit. United States Restrictions on Imports of Tuna.

International Codification of Domestic Policies

The entire strategy towards codification of domestic policies for agriculture, technical barriers to trade, sanitary and phytosanitary standards, subsidies, investment services, patents and copyrights, natural resources, tropical products, and textiles and clothing in the Uruguay Round is subject to the underlying tendency towards a multilateral harmonization approach, one which may impact negatively on federal and provincial environmental standard setting.[230]

The process of international standardization will almost inevitably come into conflict with Canadian environmental protection measures which provide higher standards than those which are arrived at through international negotiations. The general presumption is that many national standards which exceed existing international standards could then be challenged by using GATT provisions. For those national standards susceptible to challenge on this ground their survival depends upon a GATT ruling that they do not constitute unfair trade barriers. These conclusions are based upon two premises. First, a cursory analysis suggests that when one views national environmental regimes around the world and their enforcement, it is probable that, on average, Canadian environmental standards would rank somewhere in the group of industrialized nations perhaps in the upper half. Given this assumption and the premise that GATT contracting parties may seek a standard which is as close as possible to their own during international standard setting negotiations the likely outcome would be a prescribed standard somewhere in the middle of the standards available among GATT contracting parties.

If one adds to this assumption the goal of the GATT Uruguay Round towards eliminating non-tariff trade barriers and the recognition that higher standards are more likely to have the effect of blocking trade then this is a further inducement for a GATT international standard setting exercise to prescribe uniform environmental standards which are lower than those now prevailing in Canada.

---

[230] Dec. 20, 1991, Final Act, p.92, Article III, Annexes 1-4.

Furthermore, evidence of the standards set by GATT's only presently recognized international standard setting body, Codex Alimentarius, indicate that some of the pesticide standards set by this body are lower than Canadian standards.[231] If these assumptions are correct and harmonization processes prescribe relatively low standards this could result in several challenges to the existing Ontario environmental protection regime. It could also inhibit future progressive environmental policy thereby limiting the role of the Ministry of Environment and Energy as an environmental standard setting body.

3. OTHER SPECIFIC AREAS FOR CONSIDERATION

Sanitary and Phytosanitary Measures

Article XX of the existing GATT agreement allows for exemptions from GATT rules, for laws to protect "plant, animal and human life or health" (Article XXb) and for the conservation of natural resources subject to conditions (Article XXg). It is important to note that the U.S.-Canada Free Trade Agreement dispute resolution panel has already restricted the use of Article 20(g) in the Salmon-Herring decision (1989) mentioned elsewhere in this report.[232] The test applied in this case was so restrictive that any conservation measure would have difficulty in surviving a trade challenge. In essence, it balanced a valid conservation interest against its economic effects on a foreign country with a decided preference for the latter. While GATT dispute resolution panels are not legally bound to accept the findings of a Canada-U.S. FTA dispute resolution panel it is felt that the Salmon-Herring decision will be highly persuasive. This is because the Salmon-Herring decision was based on the interpretation of GATT Articles XI and XX and their accompanying principles, all of which have been directly incorporated in the Canada-U.S. FTA.

---

[231] International Food Safety: Comparison of U.S. and Codex Pesticide Standards. Report, U.S. General Accounting Office. August, 1991.

[232] In the Matter of Canada's Landing Requirement For Pacific Coast Salmon and Herring. Canada-United States Trade Commission Panel, October 16, 1989, 2TCT 7162.

As sanitary and phytosanitary measures have usually been subject to Article XXb, the GATT Panel ruling on the Tuna-Dolphin dispute created further limitations on the application of Articles XXb and XXg by declaring that these Articles can only be applied to defend laws for the protection of plant, animal or human health within the defending country's geographic borders. In addition, it provided that these Articles can only be applied with respect to the product facing the trade restriction, not to the circumstances under which the product is produced or harvested. It also stood for the principle that one cannot employ GATT Articles in order to defend restrictions on one product (i.e. tuna) to cope with matters involving another (i.e. dolphins).

When applied to sanitary and phytosanitary measures this decision has the effect of restricting the use of Article XXb to a narrow definition of "sanitary and phytosanitary" so that Article XX(b) could only include sanitary and phytosanitary measures such as preventing the spread of pests or contaminated food from one nation to another through the use of import restrictions. It could not be used on a broader environmental level to conserve wildlife species or plants in the context of ecosystem protection because its precise intent is to respond to any plant epidemic caused by importation of a commodity through the use of quarantine and other sanitary regulations.[233]

On the matter of harmonization, the basic GATT sanitary and phytosanitary standard rule is that national and sub-national standards must be brought into line with international standards in order to meet GATT requirements.[234]

The "pre-emption rules" referred to above will also be applied in the area of sanitary and phytosanitary regulations at the local and provincial level.[235] Hence, provincial pesticide regulations or policies to ensure safe food supplies for humans and animals, to protect plants and animals from pests or diseases, and/or to protect humans from diseases which may be carried by animals or by plants, are susceptible to a GATT challenge to the extent that they exceed GATT endorsed international standards.[236]

---

[233] op.cit. footnote 20.

[234] Dec. 20, 1991, Final Act, L.36.

[235] See L.35 Part C re: Decision on Sanitary and Phytosanitary Measures.

These international sanitary and phytosanitary measures would also include "laws, regulations, requirements and procedures, including end product criteria, processing and production; testing, inspection, certification and approval procedures ... statistical methods, sampling procedures and methods of risk assessment; and packaging and labelling requirements directly related to food safety."[237] The broad scope of this process would effectively disallow Ontario/Canada from taking any lead role in these areas in the future.

Similarly, the Article XXII and XXIII dispute resolution rules[238] have made it even more difficult to overturn decisions made with respect to sanitary and phytosanitary policies and regulations through the acceptance of the "automatic adoption" and "unanimous consent to overturn" (see above) provisions in the draft Final Act.

In any challenges, the burden of proof lies with the country wishing to defend its standards by establishing that they do not constitute unfair trade barriers.[239] In such a situation, the presumption is that the international standard is the appropriate one and that any higher standard would pose a barrier to trade. For the reasons stated earlier, harmonization downwards to a lower prescribed standard than our own is quite possible.

It is a further problem that Codex Alimentarius (see Appendix 'A' of this report) has been left to oversee international food standards. The area of this organizations purview is wide-ranging, covering rules for risk assessment and methods of analysis, standards for colour, flavour, and other additives, in addition to rules for pesticides, animal hormones, antibiotics, drug residues, contaminants, food inspection and sanitary handling.[240] According to a U.S. General Accounting Office study on international food safety, the standards set by Codex Alimentarius in this area have been lower than U.S. standards or have been non-existent.[241]

---

[236] Dec. 20, 1991, Final Act, p. L.36, para. 1, L.45, Annex A.

[237] Dec. 20, 1991, Final Act, p. L.45, Annex A, para. 1.

[238] Dec. 20, 1991, Final Act, S.18, para. 21.1(a); Dec. 20, 1991, Final Act, S.18, para. 21.2(c).

[239] Dec. 20, 1991, Final Act, L.39, para. 21.

For instance, among pesticides identified by the United States Environmental Protection Agency as probable carcinogens the USEPA has lower maximum residue levels in 55% of the cases. Codex Alimentarius has done so for only 27% of these substances. In addition, Codex standards have permitted residues in food substances of pesticides which have long been banned in both Canada and the United States - including DDT, endrin and aldrin - while allowing higher residue levels for such toxic substances as heptachlor and aldicarb. Although this evidence provides proof of lower Codex standards in some cases, it only covers one of the standard setting areas for which Codex is responsible. In view of the broad range of areas covered by Codex and the new importance attached to international standard setting further study of Codex standards and standard-setting processes is warranted.

It is also problematic that with respect to some pesticides, Codex has not created standards.[242] It is not clear which standard would be applied in a regime which imposes international standards as the yardstick of regulation but has not yet developed them.

It is a further problem that Codex standards are set by bureaucratic officials a number of whom also represent major food and chemical multinational firms.[243] Since Codex establishes rules for food inspection and sanitary handling; pesticide, animal hormone, antibiotic and other drug residues and contaminants, colour, flavour, and other additives; and risk assessment and methods of analysis, many of it's regulations would affect these multinationals in their ongoing business activities. This creates the undesirable circumstance in which the regulators are also the regulated. Public safety probably requires higher regulatory standards than these companies would seek to impose upon themselves, as well as a more publicly accountable and arms-length standard setting process.

---

[240] Dec. 20, 1991, Final Act, p. L.46 Annex 1, para. 3, L.46 Annex A, para. 3.

[241] International Food Safety: Comparison of U.S. and Codex Pesticide Standards.

[242] Introducing Codex Alimentarius available from Joint FAO/WHO Food Standards Programme, via delle Terme di Caracalla, Rome, Italy.

[243] See Appendix A regarding the nature and composition of the Codex Alimentarius Commission.

There are other measures in the GATT Uruguay Round text which would seek to restrict the ability of governments to maintain standards that are higher than those endorsed by GATT. For instance, the sanitary and phytosanitary text currently on the table requires that "sanitary and phytosanitary measures are [to be] applied only to the extent necessary to protect human, animal or plant life or health, are to be based on scientific principles, and are not [to be] maintained against available scientific evidence.[244] There is the dual problem that, if Codex has already set certain standards, then they will be deemed to be the standards "necessary" to protect human, animal or plant life.[245] Presumably then, according to GATT any higher standard would be unnecessary. There is the second concern that if international standards or Codex standards have not been set, a trade panel may assume that no standard is necessary. In the future, assuming the worst case scenario, this could mean the unimpeded importation of pesticides such as D.D.T. whose use is presently banned in Ontario.

Even if it were shown that some higher standard were "necessary", this standard would have to be translated into law in a manner that is the least restrictive measure possible from a trade perspective.[246] The "least trade restrictive rule" has become a highly visible one in GATT rulings, including the Thai cigarette case, the Tuna-Dolphin case and the Canadian Salmon-Herring case, all of which involved a declaration that a national environmental or health measure was GATT-illegal.[247]

---

[244] Dec. 20, 1991, Final Act, p. L.36, para. 6.

[245] Dec. 20, 1991, Final Act, p. L.37, para. 10.

[246] Dec. 20, 1991, Final Act, p. L.39, para. 21.

The clause referred to above with respect to "available scientific evidence" is not defined in the text and its meaning remains to be established through dispute panel interpretations. It may suggest that where stronger-than-international standards are sought to be maintained there would have to be no conflicting scientific evidence suggesting that a higher standard is unnecessary. Given that environmental science seldom arrives at certainty on any issue and that powerful commercial interests may oppose a given standard, the difficulty of establishing unanimous consensus in the scientific community on a higher standard can be significant. In the absence of unanimity it appears that the "available scientific evidence" clause could compel acceptance of imports which are certified according to an international standard for the substance. Evidence of a multilateral consensus on a standard could serve to challenge a unilaterally accepted higher standard.

There is a further requirement found in the Sanitary and Phytosanitary provisions which provides that all nations "shall take into account as relevant economic factors the potential damage in terms of loss of production or sales in the event of...a pest, the costs of control or eradication...and the relative cost effectiveness of alternative approaches to limiting risks."[248] This requirement calls for the "balancing" of human health and economic objectives. Here, the Canadian approach suffers a further setback because, in general, it simply does not consider a balancing of commercial and health objectives in view of the higher imperative placed on the protection of human health over profit margins.

By analogy, one could argue that in the area of environmental regulation, any standard-setting exercise which does not balance commercial and environmental/health objectives might be susceptible to a GATT challenge. For example, the Canadian Pest Control Products Act (PCPA), a statute which regulates the protection, distribution and use of pest products, does not authorize the cost-benefit or risk-benefit considerations necessary for such balancing exercises. This GATT provision could leave virtually any environmental law (with trade implications) which does not fully consider the commercial losses associated with that law susceptible to repeal.

---

[247] Thailand. Restrictions on Importation of and Internal Taxes on Cigarettes, Report of the Panel Adopted on 7 November 1990 (DS 10/R) GATT Basic Instruments and Selected Documents Sapp. No. 37 (Geneva 1991) 20a.

[248] Dec. 20, 1991, Final Act, p. L.38, para. 18.

The GATT principle of "consistent levels of protection" which provides that "consistency in the application of the concept of the appropriate level of sanitary and phytosanitary protection" is required.[249] This means that a jurisdiction should provide the same level of safety or risk to human or animal health for all of its sanitary and phytosanitary measures. This principle could provide grounds for challenges to the zero risk rule, a "health based" rule which allows that where a pesticide residue or additive threatens human health its use will not be allowed domestically. For example, consider the existing Canadian ban on the use of alar in the agricultural sector. Pesticide residues or additives which are carcinogenic would provide another fitting example. Such prohibitions on domestic use give rise to the creation of bans on imports of the substance and, consequently, create a barrier to trade. Substances whose use is banned in Canada but permitted elsewhere could be introduced into Canada following a successful trade challenge based on the risk assessment requirements under SPS provisions. This could occur if the zero risk standard is successfully challenged for a particular substance or substances.

Zero risk standards appear in both American and Canadian legislation although neither country use zero risk terminology. Under the U.S. Federal Insecticide, Fungicide and Rodenticide Act the standard applied under section 3(5) refers to "unreasonable adverse effects on the environment."[250] According to the Canadian PCPA the standard of "unacceptable risk of harm" is identified in the Pest Control Products regulations at section 18. The emphasis is on demonstrating the safety of the product in question. While it is unclear whether these tests represent a higher standard than that set by Codex, one thing is certain. They are different from the Codex approach. And to the extent of their inconsistency the U.S. and Canadian methodologies may have to be revised.

---

[249] Dec. 20, 1991, Final Act, L. 36, para. 5; L.37, para. 9, para. 11; L.38, para. 20.

[250] Federal Insecticide, Fungicide and Rodenticide Act 7 U.S.C.; Pest Control Products Act R.S.C. 1985 - Chapter P-9.

Technical Barriers to Trade Agreement

The Technical Barriers to Trade Agreement[251] which is part of the draft Final Act is as broad as one can imagine. It covers all products and process standards for industrial and agricultural products. For example, any product safety standards related to health and environment issues may be susceptible to challenge, subject to the rules of the agreement. Furthermore, any environmental requirements related to industrial and agricultural production processes would be included in the broad definition of technical barriers to trade provided for in this particular agreement.[252]

The Technical Barriers to Trade Agreement does not challenge the principle established under the Tuna-Dolphin decision, that a restriction on the trade in products may not be on the basis of the process under which they are harvested or manufactured. The Agreement takes the decision further by prescribing restrictions for all technical regulations concerning products and processes, thereby giving nations a further arsenal of weapons for challenging process restrictions which protect the environment. In effect, the Technical Barriers to Trade Agreement favours pollution haven industrial strategies by protecting foreign companies from GATT challenges to their production processes.

The Technical Barriers to Trade Agreement provides a broader list of legitimate objectives for regulation than the sanitary and phytosanitary standards agreement. This list would include all product and process standards for all industrial and agricultural products.[253] The Technical Barriers to Trade Agreement offers only one exception to the application of international standards, namely in circumstances involving technological or climatic incompatibility.[254] This includes situations in which such technical standards would be ineffective or inappropriate due to fundamental climatic or geographical factors. It is difficult to imagine a situation in which such a narrow exception might be applied as a means of upholding a particular environmental protection regulation.

---

[251] Dec. 20, 1991, Final Act, G.5, Article 3, para. 5.

[252] See section G - "Technical Barriers to Trade."

[253] Dec. 20, 1991, Final Act, p. G.2, Article 1, para. 2.3, 1.5.

In addition to the requirements of harmonization there is the further requirement that the least restrictive standards be applied. The text provides that "technical regulations shall not be more trade restrictive than necessary to fulfil a legitimate objective, taking account of the risks non-fulfilment would create."[255] A related footnote states that "this provision is intended to ensure proportionality between regulations and the risks non-fulfilment of legitimate objectives would create."[256] Once again we see the proviso that the "least trade restrictive measure" possible must prevail. Similarly, a nation attempting to defend a higher standard is faced with the familiar disadvantage of having to prove that no less-restrictive trade measure is available in the circumstances.[257] As discussed above, there has been no successful defence of an environmental law in the face of this test.

There is the further problem of "proportionality" which seeks to measure the value of a "legitimate objective" in terms of the damage that it would cause from a trade perspective.[258] Those environmental measures which do not attempt or cannot demonstrate having undergone such a balancing exercise would almost certainly fall, according to such a restrictive rule.

One may also well ask what it is that constitutes a "legitimate objective". The text defines legitimate objectives as being those that involve "national security requirements; the prevention of deceptive practices; protection of human health or safety, animal or plant life or health, or the environment."[259] This definition would be encouraging to environmental regulators were it not for the variety of ways established by the rules elaborated above, which challenge the validity of any form of regulation when it is counterposed to the goals of liberalized trade.

---

[254] Dec. 20, 1991, Final Act, G.2, Article 1, para. 1.3; G.20 Annex 1, para. 1.

[255] Dec. 20, 1991, Final Act, p. G.3, Article 2, para. 2.4.

[256] Dec. 20, 1991, Final Act, p. G.3, Article 2, para. 2.2.

[257] Ibid.

[258] Dec. 20, 1991, Final Act, p. G.3, Article 2, para. 2.5.

A final point relates to the retroactive application of the draft final text. It is generally a matter of both our common law and statute law that there should be no retroactive application of new legislation or case law. However, this may not be the case with respect to the application of the draft text. While the 1991 draft text makes no mention of retroactive application, an earlier draft provided that "to the extent that a party considers that technical regulations ... which exist at the time of entry into force of this agreement, are not consistent with the provisions of this agreement, such regulations ... shall be subject to the provisions of Articles XIII and XIV of this Agreement."[260] These Articles set up a Standing Committee on Technical Barriers to Trade and Dispute Resolution. Hence, one would suppose that retroactive application will be facilitated by a review of existing technical regulations by this Committee. Regulators are advised to monitor whether such a process will be mandated by amendments to the draft Final Act.

The Multi-Lateral Trade Organization

As mentioned above, enforcement of agreements such as the Technical Barriers To Trade Agreement will be the chief responsibility of the Multi-Lateral Trade Organisation. Discussion over establishment of a Multi-Lateral Trade Organization (MTO) is not new to the GATT. This matter was first placed on the GATT agenda in 1947 but after intense review the MTO concept was set aside due to the unwillingness of nations to relinquish such sweeping powers over commercial regulation.

---

[259] Ibid.

[260] Dec. 20, 1991, Final Act, p. G.3, Article 2, para. 2.2.

The rules under which the MTO would conduct its affairs would encompass those existing after completion of the Uruguay Round, and by implication would include those provisions of the existing GATT which have not been renegotiated in the Uruguay Round.[261] With the adoption of the integrated dispute resolution system brought forward during the Uruguay Round, MTO will also preside over -- and by implication sanction -- cross-retaliation powers for trade violations (see discussions at pages 159-160 of this report).[262] As well, the MTO will have the power to require contracting parties to comply with GATT Agreements.[263] For this reason, the strengthening of dispute resolution powers will also lead to the strengthening of the MTO. The above-mentioned powers will arm the MTO with the necessary procedural and substantive provisions for reviewing environmental laws where they conflict with the principles of liberalized trade being endorsed in the Uruguay Round Agreement.

A cursory analysis of the MTO Agreement is somewhat misleading in that it articulates support for the promotion of higher standards of living, sustainable development and full employment. Its preamble provides that "relations in the field of trade and economic endeavour should be conducted with a view to raising the standard of living, ensuring full employment, and a large and steadily growing volume of real income and effective demand, developing the optimal use of resources of the world at sustainable levels, and expanding the production and trade in goods and services."[264] In view of the history of GATT trade and environment conflicts and GATT's failure to substantively address environmental regulation and natural resource conservation goals in the current draft document, the preamble is particularly suspect when it suggests that there is concern about the sustainable use of the world's resources.

There are four annexes to the MTO chapter which lay out the rules that would frame an MTO agreement. By agreeing to the MTO, contracting parties would be accepting a number of international trade agreements to which the annexes refer (and presumably any new GATT agreements which would come forward).[265] In total, this means acceptance of the following[266]:

---

[261] See 1990 Draft text p. 63 Article 14.5.

[262] Dec. 20, 1991, Final Act, p. 92 Article III and Annexes 1-4.

[263] Dec. 20, 1991, Final Act, p. 92 Article III, para. 4 and Annex 2.

[264] Dec. 20, 1991, Final Act, p. 95 Article VIII, para. 2.

i. The Tokyo Round agreements and arrangements as they result from the "Final Act" of the Uruguay Round, and associated legal documents except the Agreement on Trade in Civil Aircraft, the Agreement on Government Procurement, the International Dairy Arrangement and the Arrangement regarding bovine meat (although nations would be encouraged to join under these agreements);

ii. The General Agreement on Tariffs and Trade as it results from the Uruguay Round "Final Act" and its associated legal instruments and up to nine separate annexes, except the Protocol of Provisional Application;

iii. The General Agreement on Trade and Services;

iv. The Agreement in trade related aspects of intellectual property rights;

v. The integrated dispute settlement understanding contained in the main body text of the Final Act at section D; and

vi. The trade policy review mechanism decided on April 12, 1989.

The MTO, once established, would seem to be very difficult to replace. Among the hurdles to its replacement perhaps the most difficult one would be the attainment of the 67 per cent majority among GATT contracting parties required to bring about its dissolution.[267]

---

[265] See Final Act, p. 91 re: MTO Preamble.

[266] Dec. 20, 1991, Final Act, p. 92 MTO Article II, para. 1.

[267] Dec. 20, 1991, Final Act, p. 92 Article III, para. 4.

The MTO, as proposed, will for the first time allow cross-retaliation between the different agreements which comprise the MTO rules. This is facilitated by the inclusion of the trade in services in the core GATT, through the addition of the General Agreement on Trade in Services to the Annexes of the MTO Agreement.[268] For example, a denial of access to markets for the trade in services could be met with the punishment of denying imports of natural resources. This cross-retaliation mechanism provides developed countries with powerful mechanisms for enforcing access to markets for their services in the less diversified economies of developing countries which would suffer tremendously over the denial of access to northern markets for their natural resource exports. Such a mechanism could also be harmful to Ontario. For example, if a nation felt that Ontario was blocking access to its telecommunications market, it could very well choose to block imports of Ontario forestry products through the mechanism of cross retaliation.

The Dispute Resolution Mechanism

With respect to the powerful dispute resolution rules proposed by the Uruguay Round, we have already discussed the constraining effects of the "automatic adoption" and "unanimous consent to reject" rules.[269] Once again, secrecy in dispute resolution panel arguments, papers and presentations is a major problem. Given the fact that thus far, it is only the Canadian government which has had standing before such panels it is quite conceivable that important provincial interests may not be well represented (if at all) during GATT dispute resolution panel sessions, because there is no GATT provision which gives sub-national governments standing. This is particularly problematic from the point of view of environmental protection owing to the natural inclination of the GATT towards favouring liberalized trade policies at the expense of environmental measures. What is more, most of our environmental protection legislation is provincial in nature, yet the GATT presumes that national governments are the most logical participants in GATT negotiations and dispute resolution processes.

---

[268] Dec. 20, 1991, Final Act, p. 96 Article X, para. 2.

[269] Dec. 20, 1991, Final Act, p. 100 Annex 1B.

All aspects of GATT dispute resolution body decisions would be applied to provincial and local governments and their regulations according to the draft "Final Act."[270] The GATT itself is a contract between only national governments, with no allowance for provincial governments as parties.

Finally, there is the further section entitled "Strengthening of the Multi-Lateral System" which appears to preclude any nation from taking unilateral trade enforcement actions, even in the event that a trade dispute resolution panel rules in its favour.[271] Established procedures require permission of the GATT Council before such action may be taken.[272] Hence, even if Canada were able to win a dispute over the right to regulate importation of a commodity which had been unsustainably produced or dumped on the Canadian market it could not take unilateral action against such nation. This further challenges Canada and by implication Ontario's authority to regulate in these areas in the manner in which it traditionally has done so.

Under paragraph 20.1 of the Final Act, panels are instructed to require that parties whose laws do not conform with a GATT panel ruling bring such measures into compliance with the ruling. This means that the losing party must withdraw the measures found to be inconsistent with the GATT. Accordingly: "Compensation and the suspension of concessions or other obligations are temporary measures available in the event that the recommendation and rulings under Article XXIII.2 are not implemented within a reasonable amount of time. However, neither compensation, nor the suspension of concessions or other obligations is preferred to full implementation of a recommendation to bring a measure into conformity with the General Agreement."[273]

Non-compliance will allow the winner to withdraw trade concessions from the loser. Section 3, paragraph 1.7 provides that as a last resort there is the "possibility of suspending the application of concessions or other obligations on a discriminatory basis vis-à-vis the other contracting party, subject to authorization by the contracting parties of such measures."[274] Under the Final Act, it would no longer be possible to pay compensation in lieu of repealing the GATT offending law. The Final Act states that compensation may only be employed as an interim measure until a law is removed. "The provision of compensation should be resorted to only if the immediate withdrawal of the measures which are inconsistent with the GATT is impracticable and as a temporary measure pending the withdrawal of the measures which are inconsistent with the GATT."[275]

---

[270] Dec. 20, 1991, Final Act, S.12, Article 14 para. 4.

[271] Dec. 20, 1991, Final Act, S.18, para. 20.7.

[272] Dec. 20, 1991, Final Act, S.18, para. 21.1(a).

[273] Dec. 20, 1991, Final Act, S.18, para. 21.2(c).

The Subsidies Agreement

In section "H" (Subsidies Code) of the draft Final Act, there is no explicit discussion of subsidies relating to environmental protection or natural resource conservation efforts. However, the categories of the subsidies which would be rendered GATT- illegal informs any discussion of balancing liberalized trade concerns against subsidies for the environment.[276] The text divides the treatment of subsidies into three categories based on a red, amber or green designation.

The "red" category provides a list of prohibited subsidies. These include government grants, loans, equity investments, loan guarantees or tax exemptions that are tied to foreign export performance or contingent upon the use of domestic rather than imported goods.[277] Examples include subsidies to industrial firms based on export performance, lower freight rates for export shipments, and tax deferrals related to exports (e.g. rebates of GST to manufacturers exporting goods). In order for an action to be taken against these subsidies one need not even prove that the subsidies were injurious to another contracting party under the GATT.[278] Hence, for example, a subsidy awarded by the Ontario government to companies which use sustainably produced domestic goods rather than unsustainably produced imported goods could be prohibited under GATT.

---

[274] Dec. 20, 1991, Final Act, S.16, para. 20.1.

[275] Dec. 20, 1991, Final Act, S.3, para. 1.7.

[276] Dec. 20, 1991, Final Act, S.3, para. 1.7.

[277] See Parts 1 (p.I.1) and 2 (p.I.3) of the Agreement on Subsidies and Countervailing Measures.

The "amber" group of actionable subsidies is operationalized by proving one of the three following criteria:

1. that the subsidy is injurious to the domestic industry of another member;

2. that the subsidy removes or impairs benefits accruing directly or indirectly to another member;

3. that the subsidy causes serious prejudice to another member.[279]

Serious prejudice is deemed to occur whenever the subsidization of the product amounts to more than 5 per cent of its price.[280] Nullification or impairment definitions are very easily met because they refer to any measure, whether or not it conflicts with the provisions of the agreement, that removes or impairs any benefit accruing directly or indirectly to a party.

The difficulty the Ontario Government would face with regard to these rules is even more onerous than that proposed by the Tuna-Dolphin decision. If such rules are extended to the environmental purview then any form of policy or regulation involving a subsidy (even if it were proven to be a valid environmental regulation) which may be construed as causing injury to another country's imports would fall by the wayside. Like the Technical Barriers To Trade Agreement, this section effectively nullifies a nation's (province's) ability to use subsidies as a means of guaranteeing that commodities coming from other countries are sustainably produced. This could leave our industries at a competitive disadvantage due to foreign industry reliance upon the lower costs associated with some pollution haven economies. It also discourages industry from implementing technologies which make their activities more environmentally sound to the extent that they represent an added cost of doing business.

---

[278] Dec. 20, 1991, Final Act, I.3, Article 3.

[279] Dec. 20, 1991, Final Act, I.4, Article 4.

[280] Dec. 20, 1991, Final Act, I.5, Article 5.

Attempting to uphold subsidies which counterbalance low environmental standards in pollution haven economies or introducing subsidies to encourage domestic sustainability, would likely be met with serious countervailing actions owing to their illegality under GATT. Again, it is not to be forgotten that the burden of proof rests with the party accused of utilizing the subsidy to establish that it is GATT-legal.

The "green light" category of allowable subsidies provides a further indication of the very restrictive nature of the application of subsidies where they interfere with liberalized trade initiatives. The only subsidies which are non-actionable according to the Code include those which are generally available rather than those being targeted at assisting specific enterprises.[281] Examples include government funding for infrastructure, schools and worker training programs. Government transfer payments to disadvantaged regions are also non-actionable. Further, there is the possibility outlined in Article XXXI that there will be a five-year sunset clause even for these non-actionable subsidies.[282] In other words, such subsidies are opened to further review five years from now in order to determine the extent to which they should be extended, modified, or terminated.

The Code also requires governments -- and presumably this would include the Ontario government -- to provide lists of current government measures that deal with the area of subsidies so that these subsidy programs can be brought into conformity with the Code over a period of three years.[283]

---

[281] Mel Hurtig, The Betrayal of Canada, Stoddart Publishing Co. Limited, Toronto, p.198-199.

[282] Dec. 20, 1991, Final Act, I.9, Article 8.

[283] Dec. 20, 1991, Final Act, I.36, Article 31.

Non-conforming programs will not be extended.[284] The essential conclusion from an examination of the Subsidies Code is that governments at any level will be prohibited from applying non-market criteria in order to support industries in the interest of natural resource sustainability. This prohibition could stand as a substantive roadblock to any thought of environmental pricing, cost accounting or cost internalization for commodity prices, whether they be domestic or foreign. With this conclusion comes the recognition that one of the most valuable tools for conservation and sustainability of any provincial natural resource may have fallen by the wayside.

4. AN ENVIRONMENTAL COMPARISON OF NAFTA AND GATT URUGUAY ROUND "ENVIRONMENTAL PROTECTION" PROVISIONS

As stated above, it was not the intention of GATT Uruguay Round negotiators to resolve environmental issues in the final text. The GATT Working Group on Environmental Measures and International Trade is the only GATT group which is presently addressing environment and trade linkages. In contrast, the three nations which negotiated NAFTA committed themselves publicly to addressing environmental issues in the NAFTA itself and through a side agreement on environmental enforcement.[285]

In this section a comparison of the two agreements shall be made by reference to those provisions of the NAFTA which attempt to address environmental protection issues. Where possible, the NAFTA provision will be compared to that of the GATT Draft Final Act. The essential conclusion which this comparative analysis reveals is that both agreements fail to adequately address environmental concerns. Furthermore, neither agreement addresses the natural resource management problems which are posed by trade activity. It is to be noted that this exercise considers potential effects since neither of the two agreements has been implemented. In this sense, a purely textual analysis cannot result in conclusive findings regarding all of the environmental impacts of the two agreements.

---

[284] Dec. 20, 1991, Final Act, I.35, Article 28.

[285] Personal communication with Jean Charest, Environment Minister, Government of Canada, at Canadian Environmental Network Annual General Meeting, October 1991.

The ten sections of the NAFTA text which were designed by the negotiators to deal with "environmental protection" issues are discussed below.

First, unlike the GATT final text, the preamble of the NAFTA provides a commitment by the parties to engage in trade "in a manner consistent with environmental protection and conservation". It also makes specific reference to the promotion of "sustainable development" and strengthening the development and enforcement of environmental laws and regulations. While the preamble is not enforceable, its language does identify the trade/environment nexus.

Similarly, unlike the GATT final text, NAFTA contains provisions related to potential inconsistencies with the three international environmental agreements and two Canada-U.S. bilateral environmental agreements.[286] This serves to identify potential inconsistencies between these agreements and NAFTA. However, the protection afforded to such environmental agreements is significantly weakened by the "least NAFTA inconsistent" requirement. A similar requirement has been used at GATT to strike down health and environmental laws.

A third direct environmental reference which NAFTA includes comes by way of the definition of "legitimate objective" in the Technical Barriers to Trade chapter.[287] Article 904 provides that if a standard set by a party is designed to achieve a "legitimate objective" then it may be deemed to be consistent with this chapter. The definition for "legitimate objective" includes "sustainable development". The GATT draft Final Act does not include "sustainable development" in its definition of "legitimate objective". The inclusion of this objective in NAFTA appears to be limited as it is only to be applied to standards defined as "product characteristics" or their related processes and production methods (PPMs).[288] If a country wished to prohibit the importation of products manufactured by unsustainable PPMs it might be prohibited from doing so because the PPM could not be linked directly to a "characteristic" which the product possesses. The PPM would be distinct and separate from the product characteristic. Since unsustainably produced products may not differ in their characteristics (as final products) from sustainably produced products, one may not adopt a standard which precludes the importation of unsustainably produced products according to the definitions found for "standard" and "legitimate objective" in Article 915 of NAFTA.

---

[286] Article 104 of NAFTA.

[287] Article 915 of NAFTA.

Fourthly, the restrictions on independent standard-setting by a party under NAFTA with respect to technical standards are less invasive than those required under the GATT draft Final Text which includes a least-trade-restrictive test based on "proportionality". The "proportionality" test may be used by GATT panels to balance environmental and commercial factors in favour of the latter. NAFTA does not include this feature.

On the fifth matter concerning environmental protection, Article 712 of the NAFTA chapter on sanitary and phytosanitary measures allows a restricted right for each party to set its own appropriate level of protection concerning human, animal, or plant life or health.[289] Specifically, Chapter 3 of this report sets out six restrictions on the use of NAFTA Article 712.2. However, as restrictive as Article 712.2 is, it may still be preferable to the GATT Draft Final Act approach for a few reasons. Unlike NAFTA, the GATT "least-restrictive" test also requires consideration of technical and economic feasibility.[290] As well, though both agreements call for an evaluation of cost-effectiveness of alternatives, the draft GATT final text also applies this to human health considerations. NAFTA only applies the cost-effective test to animals and plants. Finally, the GATT Draft Final Act provides a higher test for an independent standard by requiring that it not be

---

[288] Article 915 of NAFTA.

[289] Article 715 of NAFTA.

[290] Paragraph 20 of the GATT Draft Final Act, Sanitary and Phytosanitary chapter.

"maintained against available scientific evidence".[291] According to NAFTA all that is required in order to maintain an independent standard is a current scientific basis.[292]

The sixth environmental protection matter which the NAFTA text raises is a commitment by the parties to work jointly to "enhance" environmental and health and safety levels through making their standards compatible. This is found in Article 906 of NAFTA. Once again, the GATT Uruguay Round offers no similar pronouncement. To the contrary, its new SPS requirements impose further limitations upon independent standard setting by requiring consistency with scientific evidence and compliance with the least-trade-restrictive test identified above.[293]

NAFTA also makes specific mention of the environment in its investment chapter. It provides that "it is inappropriate to encourage investment by relaxing domestic health, safety or environmental measures",[294] and specifies that consultations may occur if one party alleges that another party has breached the section. The GATT text does not contain any similar wording.

A further reference to "environment" in NAFTA specifies that GATT Article XX (b) includes "environmental" measures and that GATT Article XX (g) applies to living as well as non-living resources.[295] On its own, this clarification is unhelpful because it is already understood that GATT Article XX covers environmental measures. It is more revealing that GATT Article XX has never been successfully invoked to protect our environmental measures from a trade challenge.

The remaining NAFTA features which directly identify environmental issues are found in the dispute resolution provisions. Under these provisions, if a party states that a standard or sanitary and phytosanitary measure violates NAFTA, the burden of proof rests on that party to establish this inconsistency.[296] According to the GATT Uruguay Round text, the defense of the standard in place is left to the party seeking to protect the standard. From an environmental perspective the NAFTA approach is preferred.

---

[291] See GATT draft final text, sanitary and phytosanitary chapter, paragraph 6.

[292] See NAFTA, Article 712.3 (b).

[293] See GATT draft final text, SPS chapter, paragraph 11.

[294] Article 1114(2) of NAFTA.

[295] Article 2101.1 of NAFTA.

Finally, under NAFTA scientific review boards may be convened where a trade panel or party requests such assistance if the case involves factual issues concerning environmental, health, safety or other scientific matters.[297] It is hoped that environmental experts will be a part of this forum, thus improving the quality of the evidence available to trade panels in the future. Once again, the GATT Draft Final Act does not contain this feature.

5. CONCLUSION

This chapter has provided a critical analysis of the environmental protection and natural resource dimensions of the draft Final Act of the GATT Uruguay Round. It has identified seven areas of concern and added a textual analysis of the limitations that the draft Final Act imposes upon national (provincial) sovereignty as it relates to environmental policy.

The Agreement diminishes national sovereignty over natural resource management policy by requiring multilateral approaches to resource issues and by limiting restrictions on imports and exports.

It calls for the development of a powerful MTO which will preside over trade disputes in the absence of new environmental protection provisions.

The draft Final Acts dispute resolution provisions limit the range of mechanisms for upholding nationally supported environmental laws while facilitating the use of international pressure to enforce GATT decisions.

---

[296] See NAFTA Article 723.6 and 914.4.

[297] Article 2015 of NAFTA.

It creates new procedural impediments to national environmental law-making by allowing the decisions of international standard setting bodies to prevail over those of domestic regulators.

It raises further constraints on provincial environmental regulation efforts by requiring that the federal government take positive measures to secure compliance of provincial laws with GATT provisions.

The draft Final Act places limitations on the ability of nations to pass laws related to environmental resources which are shared by countries. In effect it prohibits regulatory exercises which reach beyond national borders.

Finally, it institutes multilateral harmonization approaches across a broad range of domestic policy areas (agriculture, technical barriers to trade, sanitary and phytosanitary standards, subsidies investment services, patents and copyrights, natural resources, tropical products and textiles and clothing) with the likely consequence that international standards will come into direct conflict with Canadian environmental protection laws. This could result in international pressure to cast aside existing Canadian standards in favour of the lowest common denominator among nations.

Chapter 6

The Use of US Trade Remedy Laws: Impacts on Ontario Environmental Protection Strategies

by Scott Sinclair

1. INTRODUCTION

Ontario employs a number of environmental "economic instruments" designed to abate pollution, improve environmental quality, and encourage environmentally sustainable economic development. An active government role is required to meet public demands for efforts to reverse environmental degradation and promote environmentally sustainable development. Financial incentives, along with regulation and education, are key instruments of environmental protection.

Unfortunately, pollution abatement and other environmental programs, if they assist export industries or even domestic industries that might displace imports, may become entangled in trade remedy cases and international trade disputes. The U.S. is more likely than other countries to launch such trade actions. The GATT has singled out the United States as "one of the most frequent users of anti-dumping and countervailing duties actions", actions that challenge the allegedly unfair trade practices of its trading partners.[298] In a trade-dependent economy like Ontario's, with its high level of exports to the U.S., this potential conflict between government initiatives to foster environmentally sustainable economic development and secure access to the U.S. market is of serious concern.

Environmental policy-makers should be aware that programs will periodically be challenged as non-tariff barriers to trade. They must be prepared to defend these measures in terms of their legitimate environmental objectives. International trade rules and agreements also need to be reformed to protect environmental programs from attack as non-tariff barriers to trade.

---

[298] GATT, Trade Policy Review of the United States, March, 1992, cited in Inside U.S. Trade, March 13, 1992, p. S-1.

2. U.S. TRADE LAWS

The most important U.S. trade remedies potentially affecting Ontario's environmental economic instruments are countervailing duties and Section 301 of the Trade Act of 1974[299] (as amended) on "removing foreign barriers."

Countervailing duty (CVD) cases deal with charges of government subsidization. If imports are found to be subsidized **and** to cause or threaten material injury to a U.S. industry, then they may be countervailed, that is, a penalty tariff equal to the alleged subsidy may be imposed at the U.S. border. The United States International Trade Commission (ITC) determines whether a U.S. industry has been injured, while the U.S. Department of Commerce (DOC) determines the level of foreign subsidy.

Section 301 creates sweeping unilateral powers to attack foreign government practices that restrict the competitiveness of U.S. firms in foreign or domestic markets. In addition to enforcing the rights of the U.S. under any trade agreement, the President (or in some instances the U.S. Trade Representative) can take action against any foreign government practice that "is unjustifiable, unreasonable, or discriminatory and burdens or restricts United States commerce." The President is authorised to take "all appropriate and feasible action within his power to enforce [U.S.] rights or to obtain the elimination of [any] act, policy, or practice."[300]

---

[299] Trade Act of 1974, Section 301 (as amended), 19 U.S.C., s. 2411 (1988).

[300] On Section 301 see Trade Policy Agenda and Annual Reports of the President of the United States on the Trade Agreements Program (Washington, D.C.: U.S. Government Printing Office, annual) "U.S. commerce" is defined explicitly to include trade in goods, services associated with international trade, and trade-related foreign direct investment by U.S. persons. see Debra P. Steger, "Sections 301 and 337: Other Remedies Against Unfair Foreign Trade Practices," in "Roundtable on U.S. Trade Legislation" International Economic Issues, (Halifax:

Although the share of total U.S. imports directly affected by countervailing duties is small -- less than one-half of one per cent -- these actions are a sensitive matter with U.S. trading partners.[301] First, the U.S. resorts more frequently to countervailing duties than other countries. Secondly, even though the overall restrictive impact is relatively small, the costs to specific industries dependent on the American market can be high. Thirdly, the rules and methods used to determine countervailing duties are perceived as biassed, continually changing, and highly politicized. Fourthly, the threat of countervailing duties helps lever concessions in bilateral and multilateral trade and investment negotiations. Finally, countervailing duties pressure U.S. trading partners into altering or abandoning domestic policies considered contrary to U.S. interests. This adjustment pressure impinges on the sovereignty of U.S. trading partners. It involves the unilateral application of U.S. standards and norms abroad, moralistic judgements by U.S. officials about the "fairness" of other governments' policies, and interference in the domestic policy-making of U.S. trading partners.

Section 301 is the big stick of U.S. trade politics. Although designed to attack foreign practices, it is flexible enough to provide import relief to beleaguered U.S. industries. It can be employed in tandem with other U.S. trade remedies. In the 1992 Softwood Lumber case, a countervailing duty case was "self-initiated" under Section 301, circumventing the normal U.S. process (see case study, Chapter 7 of this report). Section 301 is regularly used to challenge practices which are legal under international law. This unique trade law greatly enhances the U.S. capability to coerce its trading partners.

The administration of U.S. trade law is quasi-judicial, that is based partly on due process and precedent. However, American trade law and administrative practice change rapidly in response to political pressures and economic needs. Over time, as domestic pressures have grown, U.S. trade

---

Institute for Research on Public Policy, Sept. 1987).

[301] GATT, Review of U.S. Trade Policy Summary, published in **Inside U.S. Trade**, Special Report, March 13, 1992, S-3.

remedy decisions have become increasingly import restrictive.[302] U.S. trade policy-makers have also more aggressively challenged foreign government practices contrary to U.S. interests. Because of the potential conflict between the United States' vigorous assertion of its trade remedy powers and Ontario's strengthened commitment to environmental protection, a review of the status of Ontario's existing and potential environmental economic instruments from the standpoint of U.S. trade remedy laws is important.

3. STATUS OF ONTARIO'S ENVIRONMENTAL ECONOMIC INSTRUMENTS UNDER U.S. COUNTERVAILING DUTY LAWS

The U.S. definition of a countervailable subsidy includes the government provision of capital grants, loans and loan guarantees "inconsistent with commercial considerations;" the provision of goods and services on preferential terms; as well as the granting of funds, forgiving of debts to cover operating losses, or the assumption of any costs or expenses in the manufacture, production or distribution of an article. In addition, upstream subsidies on inputs and even border restrictions (such as Canada's log export controls) may be considered countervailable subsidies.[303]

The U.S. does not automatically impose a countervailing duty on all foreign domestic subsidies. The DOC usually interprets U.S. trade legislation to mean that domestic subsidies that are "generally available" to all industries are not countervailable. In a countervailing duty case, DOC's first task is to find that a foreign domestic program is specific, that is "limited, either de jure or de facto, to a specific enterprise or industry, or group of enterprises or industries".[304] However, the distinction between "specific" and "generally available" is grey.[305] As frequent reversals in administrative practice illustrate, past practice is not a reliable guide to future decisions. Rulings have shifted with the prevailing U.S. economic and political tides.[306]

---

[302] For example, "during the period 1988 to 1990, final determinations by the Department of Commerce on the existence of dumping were almost entirely affirmative (68 affirmative and 3 negative determinations during the three years), while final determinations of injury by the International Trade Commission outweighed 'negative' determinations by a factor of two to one." GATT, ibid., Inside U.S. Trade, March 13, 1992, p. S-3.

[303] cf. Government of Ontario, Ministry of Industry, Trade and Technology. The Question of Secure U.S. Market Access in the Canada-U.S. Free Trade Agreement Background Paper, May, 1988. p. 7. Also, U.S. DOC. (1992). Certain Softwood Lumber Products from Canada; Final Affirmative Countervailing Duty Determination. Federal Register, May 28. Washington, D.C.

U.S. countervailing duty laws treat pollution abatement and environmental control subsidies identically to other industrial subsidies. Despite their worthy goals, environmental programs receive no special treatment or consideration. Countervailing duty cases typically involve alleged benefits under a range of government programs. Since the duties are cumulative, comprising all programs that benefit an industry or product, environmental programs may be challenged even though they are not the direct target.

4. SELECTED ONTARIO ENVIRONMENTAL ECONOMIC INSTRUMENTS

Waste management programs

Ontario employs several waste management initiatives to reduce the solid waste stream and toxins released into the environment. These grants and subsidies support the blue box program, source separation of waste, and waste diversion from disposal as well as landfill, transfer stations and processing facilities. Assistance is available to municipalities and to industrial and commercial sectors.

---

[304] Federal Register 54, 23368. Furthermore, a program will be deemed specific "if the Secretary determines that benefits under a program are limited to enterprises located in a specific region or regions of a country." (Federal Register 54, 103: 23379)

[305] The U.S authorities assert that "the specificity test cannot be reduced to a precise mathematical formula. Instead, the Department must exercise judgement and balance various factors in analyzing the facts of a particular case." (ibid. FR 23368) Consequently, "(s)pecificity has been the most litigated aspect of U.S. countervailing duty law." (Canada, et. al., 1992 Specificity: 9).

[306] The most prominent example in Canada-U.S. trade relations is the softwood lumber dispute, where U.S. trade authorities have investigated softwood lumber imports from Canada three times in ten years, "using a different set of rules each time." Department of External Affairs. "Softwood Lumber from Canada: What's Wrong with the Department of Commerce's Preliminary Determination?" media release. March, 1992. See detailed case study elsewhere in this report.

Normally, under U.S. rules, the provision of infrastructure is not countervailable, if a government does not limit that infrastructure to specific users.[307] If, however, a program is used by a limited number of enterprises, used predominantly by a specific enterprise, or if certain firms receive "disproportionately large benefits" then these benefits will be deemed "specific" and therefore countervailable.[308] Programs like the Industrial Waste Diversion Program of the Ontario Ministry of Environment and Energy, if available on a non-preferential and non-discretionary basis, should be defensible under U.S. trade rules.[309] However, assistance targeted to specific firms with waste management problems would be an actionable subsidy.

Research and development

Higher regulatory standards have spurred research and development into environmental technologies.

---

[307] According to the DOC, "'Infrastructure' includes, but is not limited to, roads, ports, railway lines, and industrial estates." (Federal Register 54, 23379).

[308] For example, in the Fresh Atlantic Groundfish case (1986), assistance to install fish plant water systems in Newfoundland was determined to be countervailable because it "provided direct financial assistance that was limited to a specific enterprise or industry, or group of enterprises or industry." (Federal Register 56, 10049). Assistance to processing plants in N.S. and P.E.I. to access fresh water supplies and electrical services was also judged to be countervailable (Federal Register 56, 10054). Based on these and other precedents the Dept. of Commerce reserves its right to judge infrastructural programs on a case-by-case basis. "In this regard, the Department does not agree with the suggestion [of the U.S. Court of International Trade] in Cabot Corp. v. the United States (1985) that the provision by a foreign government of infrastructure never can constitute a countervailable subsidy" (Federal Register 54, 23368).

[309] The **Industrial Waste Diversion Program** provides support to all industrial and commercial sectors to take advantage of new opportunities for waste diversion from disposal. Ontario Ministry of the Environment data, 1992.

Ontario needs improved technology to meet higher standards for municipal and industrial water treatment, toxic waste management, recycling, Great Lakes cleanup, and acid rain control among others. The province's rapidly growing environmental protection industry employs 30,000 persons, with annual sales of 2.5 billion in 1990.[310] Demand for effective environmental technologies is growing worldwide, creating significant export potential. Ontario offers a variety of programs to support the development of new, more effective environmental technology.

The Environmental Technologies Program was initiated in 1990 to help develop new techniques to overcome environmentally damaging practices.[311] Since 1990, 40 different projects have been funded in areas such as tires, the 3Rs, waste management, air pollution control, water and sewage treatment, and analytical instrumentation.

U.S. authorities treat export subsidies differently than domestic ones.[312] Where subsidies are tied to exports, a countervailing duty finding is easier to obtain and penalties are calculated differently[313]. Consequently, if assistance under a program such as the Environmental Technologies Program was linked to export potential, it could be at risk in a U.S. countervailing duty action.

---

[310] Ontario Ministry of the Environment, Ernst and Young, **Study of the Ontario Environmental Protection Industry** June, 1992.

[311] The **Environmental Technologies Program** focus is on the latter stages of the technology innovation process, the development, refinement, and commercialization of the product or process. Preference is given to technologies that prevent or reduce pollution at the source. Ontario Ministry of the Environment data, 1992.

[312] "The essential aspect of an export program is that a government provides special benefits to exports or exporters above and beyond what it may provide to non-exported products or nonexporters" (Federal Register 54, 23368). If a program is designated an export subsidy it "can have an important impact on the manner in which the program is analyzed and any benefit valued" (Federal Register 54, 23367). However, where "exportation is only one of many eligibility criteria for benefits under a program, the inclusion of exportation as a criterion shall not **per se** constitute selective treatment" (Federal Register 54, 23379).

[313] Federal Register 54, 23366.

Most Ontario research and development programs including the Environmental Research Program, Institutional Energy Management Program, Enersearch, Renewable Energy, or Transportation Energy, would probably be treated as domestic programs.[314] Under these rules "assistance provided by a government to a firm in order to finance research and development does not confer a countervailable benefit where the Secretary [of Commerce] determines that the results of such research and development have been, or will be, made available to the public, including competitors of the firm in the U.S."[315] However, if the government research and development is not publicly available or is targeted to assist a particular industry, it will be countervailable.

Energy conservation programs

Canada has one of the world's highest energy consumption rates per capita.[316] Excessive energy consumption contributes to major environmental problems including global warming. Industrial use accounts for over 30 per cent of Ontario's end-use energy consumption.[317]

The province provides loans and grants, such as the Industrial Energy Services Program, the Industrial Process Equipment Demonstration Program, and Industrial Retrofit Grants, to encourage energy conservation by Ontario industry and manufacturers. If these programs are "generally available" to all applicants on the basis of "neutral, objective" criteria they will not normally be actionable. However, if there is discretion in the allocation of benefits, as for example under a program like the Market Entry of Energy Efficiency Technologies which "offers financial assistance to selected proposals for new energy efficient products," then assistance may be countervailable. The U.S. authorities require that governments allocate funds according to "objective criteria" governing both eligibility for and the amount of grants. These criteria must be clearly spelled out, strictly adhered to, and verifiable by U.S. authorities.[318]

---

[314] The **Environmental Research Program** funds a range of research projects at universities, laboratories, and public agencies into a wide array of environmental topics including acid rain, air quality, biotechnology, 3Rs, waste management and water management. Ontario's energy research programs support innovative energy-conserving technologies and conservation practices. Ontario Ministry of the Environment data, 1992.

[315] Federal Register 54, 23373.

[316] World Resources Institute, World Resources 1992-93, New York, Oxford University Press, 1992, pp. 316-317 and 323-324.

[317] Ontario Ministry of the Environment figures for 1991.

Tax incentives

Serious problems, including Great Lakes pollution and acid rain, have focused public and government attention on the need for strong measures to protect and improve air and water quality. The province offers certain tax incentives to reduce industrial pollution.

A major policy challenge is to upgrade existing industrial facilities to new, higher environmental standards. Government assistance (whether through tax incentives, grants, preferential loans, equity infusions, or a variety of other forms) to upgrade a specific firm, group of firms, sector, or firms to "best available technology" levels would be actionable if targeted to a specific firm, industry, or sector. Other Canadian government grants to modernize existing industrial facilities have been successfully countervailed[319].

U.S. trade laws treat tax incentives offered on a preferential basis as domestic subsidies. "A countervailable benefit exists to the extent that the Secretary [of Commerce] determines that the taxes paid by a firm are less than the taxes it otherwise would have paid in the absence of a [tax incentive] program"[320]. Programs like the Accelerated Depreciation Allowance, for spending on new air and water pollution control equipment, would be defensible under U.S. trade law only if generally available to all applicants on the basis of neutral and objective criteria.[321] Green tax incentives would be vulnerable to challenge under U.S. countervailing duty law if targeted to specific industries, sectors, or regions.

---

[318] Interviews with officials of Office of Investigations, International Trade Administration, Department of Commerce, Washington, D.C., May 11, 1992.

[319] Fresh Atlantic Groundfish from Canada (1986), Federal Register 51, 10041.

[320] Federal Register 54, 23382.

Other initiatives

Goods or services provided by government at preferential rates may be actionable under U.S. countervailing duty law. So, for example, preferential prices to encourage the substitution of cleaner fuels such as natural gas for other carbon fuels, or low-sulphur coal for high-sulphur coal could be actionable. Canadian stumpage fees for forestry on Crown lands were judged a countervailable subsidy even though Canadian governments argued that they were not targeted to a specific industry or group of industries (see case study, Chapter 7). The DOC has considerable leeway in determining the benchmark for deciding if a government-provided good or service is priced preferentially.[322]

Agricultural and land use programmes are also vulnerable. Sustainable agricultural policy must protect the resource base for the future. Canadian governments have programs to encourage soil conservation, crop rotation, organic agriculture and other sustainable practices. Monies allocated under the Agricultural and Rural Development Program (ARDA), whose purpose was to encourage alternative land use, soil and water conservation, and economic development in rural development regions have been countervailed by the U.S.[323].

---

[321] See footnote 21 above.

[322] There has been considerable controversy in U.S. trade circles over the choice of an appropriate benchmark to determine whether the government provision of a good or service constitutes a countervailable subsidy. The benchmark price "normally will be the price the government charges to the same or other users of the good or service within the same political jurisdiction." However, under heavy industry and Congressional pressure to take tougher action, the DOC applied a different benchmark, first in Carbon Black from Mexico where the Department reasoned that the number of users of the good (carbon black feedstock) was so limited that another benchmark was required. The DOC currently employs a "Preferentiality Appendix" which gives it considerable latitude in determining an appropriate benchmark on a case-by-case basis (Federal Register 54, 23372). See p. ? of this study.

Pollution abatement or other environmental subsidies available only in certain bioregions -- e.g. a river, lake, watershed, airshed, city etc. -- would be deemed "regionally specific" and hence actionable under U.S. countervailing duty law. In a recent case involving Canadian magnesium, the St. Lawrence River Environmental Technology Development Program (ETDP), a federal government program to reduce the industrial pollution of the St. Lawrence River and to develop and improve pollution abatement technologies applicable to other Canadian or international waters, was included by the U.S. petitioners as a subsidy benefitting the magnesium industry. In its preliminary investigation the DOC "reviewed the database for recipients under the ETDP and found that neither company [i.e. Norsk Hydro and Timinico] received assistance under this program." Although the program was found to be "not used" in this instance, if either company had received benefits under ETDP these expenditures would have been countervailed along with other federal and provincial assistance to the magnesium industry.[324]

The U.S. practice of countervailing regional assistance is long established. Monies under virtually every Canadian regional development program have been targeted.[325] The legal rationale for attacking regional programs was recently restated in the 1992 softwood lumber case[326]. Assistance targeted to threatened bioregions is a sensible approach to environmental clean-up and protection. Unfortunately, such programs are exposed to U.S. countervail.

---

[323] Fresh Atlantic Groundfish from Canada (1986), Federal Register 51, 10041.

[324] Preliminary Affirmative Countervailing Duty Determination: Pure and Alloy Magnesium from Canada. Federal Register, vol. 56, no. 235, Friday, Dec. 6, 1991. A preliminary countervailing duty of 32.85 per cent was placed on Canadian magnesium (excluding Timinco, which was exempted because its net subsidy was deemed de minimus). An additional 31.33 per cent duty was imposed in a related anti-dumping investigation.

[325] In the cases of Fresh Atlantic Groundfish (1986), the preliminary ruling in Softwood Lumber (1986), and Fresh, Chilled and Frozen Pork (1989), expenditures under Canada's Regional Development Incentive Programs, Agricultural and Regional Development Agreements, General Development Agreements, and Industrial and Regional Development Program were judged actionable under U.S. countervailing duty law. Expenditures under dozens of other federal and provincial programs were also affected, including more than 50 programs in the Atlantic Groundfish case alone.

Section 301 and Ontario's packaging laws

In late July, 1992 the Bush administration concluded a Section 301 investigation by imposing a punitive 50 per cent duty on Ontario beer exports. U.S. complaints centre on a provincial environmental levy of 10 cents per container on all non-refillable alcohol containers. The purpose of Ontario's environmental levy is to encourage manufacturers and consumers to produce or purchase alcoholic beverages in refillable containers.

The U.S. attack on the environmental levy is the latest twist in a lengthy dispute between Canada and the U.S. over beer and wine marketing and distribution practices. Two GATT panels in 1988 and 1991 ruled against certain Canadian liquor board practices. Another 1992 GATT panel found that certain U.S. regulations discriminated against Canadian beer and wine. Following negotiations, Canada and the U.S. agreed on steps to implement the GATT panel reports. However, the deal came undone when U.S. brewers objected to the increase in Ontario's environmental levy.

The environmental levy has been in effect since 1989, but was raised from 5 to 10 cents in April 1992. Since April the levy has applied to all non-refillable alcohol containers, domestic and imported. However, most U.S. beer is shipped in cans while Canadian beer is sold mainly in bottles. U.S. officials claim that the measure distorts trade and that the price of a six-pack of U.S. beer in Ontario has risen by $1.30 in the wake of the increase[327].

The environmental levy passed review by GATT panels in 1988 and 1991. By treating foreign and domestic products alike, the levy adheres to the GATT principle of national treatment. Ontario has offered to have the environmental levy and other outstanding issues referred back to the GATT for resolution. The U.S. has rejected Ontario's offer, opting instead to act unilaterally under Section 301.

---

[326] Federal Register 57, 22588.

[327] Inside U.S. Trade, July 24, 1992, p. 21.

The dispute involves a clash of different marketing systems, with differing environmental consequences. In Ontario, domestic beer is sold through Brewer's Retail, Inc. a monopoly distributor owned by the province's brewers. In the U.S., beer is sold, mainly in cans, through thousands of small, private outlets.[328] In Ontario, most beer bottles are returned for refilling, while in the U.S. less than 10 per cent of beer is sold in refillable containers.
The use of refillable bottles reduces waste ending up in dumps and landfill sites. Ontario consumers purchase 2.2 billion beer containers each year. More than 99 per cent of beer bottles are returned and reused up to 12 to 15 times each. Only half of U.S. beverage containers, both beer and pop cans, are recycled, while the rest becomes garbage.[329]

Ontario's policy respects the reduce, reuse, recycle hierarchy -- reduction and reuse are environmentally superior to recycling. Besides reducing the solid waste stream, the policy supports the additional environmental benefits of refillable containers including the reduction of toxic components and improved energy efficiency. A 1989 study for the U.S. plastics industry found that a glass bottle refilled eight times reduced wastes, atmospheric emissions and energy costs more than any other of the 16 containers studied, including aluminum cans and plastic, non-refillable bottles.[330]

The environmental levy recovers some of the higher costs of waste disposal generated by non-refillable containers. It provides an incentive for manufacturers to produce alcoholic beverages in refillable containers. It influences consumers to choose the most environmentally benign product.

---

[328] James Rusk, "Green concerns colour trade disputes in the '90s," The Globe and Mail, Monday, August 10, 1992. p. B1.

[329] Ibid.

[330] Ibid.

It assists brewers that must absorb the higher costs of complying with environmental regulations to compete with brewers that externalize those costs.[331]

Experience in other jurisdictions shows that the use of refillable containers declines significantly when not supported by government. In British Columbia, about 80 per cent of beer was sold in refillable containers in the late 1980s, "a ratio similar to the 83-per-cent market share refillables now have in Ontario". In 1989, after provincial authorities opened B.C. to U.S. imports, local brewers were undercut by U.S. competition and forced to switch to cans.[332] The market share of refillable containers fell from 80 percent to 25 per cent within three years.[333]

The Liquor Control Board of Ontario (LCBO) has taken steps to permit foreign brewers to avoid the levy by selling their product in refillable containers. The LCBO has made interim arrangements for a container collection and return system for refillable containers sold in its stores. It has also offered to purchase immediately imported beer in refillable bottles, where the manufacturer will substitute a refillable container for a non-refillable product.

Despite the tangible environmental benefits of the levy, its GATT-consistency, and the LCBO's efforts to permit foreign brewers to avoid the levy, the U.S. took unilateral trade action against beer imported from Ontario. The government of Canada retaliated by placing a mirror penalty on U.S. beer exports to Ontario. A domestic environmental measure has been caught up in a bilateral trade dispute.

There are other examples internationally of challenges to environmentally-related packaging laws as non-tariff trade barriers. In 1981 Denmark mandated that beer and soft drinks could be sold only in reusable, approved containers. Foreign beverage manufacturers complained that the Danish regulations were discriminatory because they had to bear the costs of establishing collection systems while coping with longer distances and a smaller turnover in the Danish market. The European Commission supported this claim. In December, 1986 the Commission, along with the British government and a coalition of foreign beer companies, brought a case against Denmark before the European Court of Justice.

---

[331] U.S. breweries can operate more cheaply because filling lines of cans are less labour-intensive. U.S. brewers are also without the costs of a return/refill system.

[332] Filling lines for cans are less labour-intensive and therefore cheaper to operate than bottling lines (Rusk, op.cit., p. B3).

[333] Floyd Laughren, Treasurer of Ontario. Letter to Zen Makuch, Canadian Environmental Law Association. July 27, 1992.

In the Danish Bottles Case (1988) the European Court of Justice upheld Denmark's bottle deposit and return system and a Danish ban on cans as legitimate environmental measures requiring the limitation of free trade rules. The decision is important because it was the first trade dispute settlement decision to permit curbs on free trade on environmental grounds[334]. However, the Court struck down the Danish limits on non-approved containers. The viability of a re-use system requires that a manageable number of container types be maintained (around 30 according to the Danes). Ominously, the Court asserted that the improvement to the Danish environment was "disproportionate" to the loss in markets to foreign drink makers. The effect of the decision, while protecting Danish recycling arrangements and the ban on cans, was to inhibit environmentally preferable reuse.

The positive aspects of the judgement helped clear the way for new German packaging laws. Germany has moved aggressively to regulate all forms of packaging with the aim of dramatically reducing waste. The new German law requires producers and retailers to collect and recycle excess packaging. Italy, Ireland and the southern EC states were also encouraged, following the Danish Bottles case, to take a variety of recycling initiatives[335]. However, just as environmental progress in one jurisdiction often creates a "follow-the-leader dynamic" in which other jurisdictions come under public pressure to adopt the new higher standard[336], the overturning of a domestic environmental initiative by a supranational body creates an opposite dampening dynamic. Governments become reluctant to risk initiatives that may be overturned and stiffen resistance to public pressure for higher levels of environmental protection. The Danish Bottles rulings has probably set back reuse initiatives not only in Denmark but in other jurisdictions as well.

---

[334] London Business School. (1991). The Danish Bottles Case.

[335] op.cit.

[336] Shrybman, Steven, "Trading Away the Environment", World Policy Journal, Winter 1991-92.

Excess alcoholic beverage containers are but a small part of a larger problem. The challenge of reducing the total waste stream and eliminating toxic components is enormous. Ontario's environmental levy is a small, but important step. The Danish bottling regulations and Germany's packaging laws suggest that in the future more comprehensive measures to reduce packaging and waste are inevitable.

That these imperative environmental measures have attracted trade complaints highlights the need for reform of international trade rules. There is an opportunity for Canadian governments to ally with other supportive states. Until such reforms are in place, a vigorous defence of environmental initiatives at home and abroad is vital.

5. REFORMING INTERNATIONAL TRADE RULES

Indirect subsidies

There is a pressing need to reform international trade rules to promote environmental protection and sustainable development. Reforms are required in a broad range of matters: product and process standards, sanitary and phytosanitary standards, protection of biodiversity, dispute settlement, and several other issues including the status of environmental expenditures under subsidy codes and domestic trade laws.

As discussed, a broad range of environmental policy instruments are actionable under the U.S. countervailing duty laws. By contrast, non-existent or laxly enforced environmental standards are **not** actionable under U.S., Canadian, or multilateral trade rules. Current trade laws permit these "indirect subsidies."

This shortcoming creates a bias in favour of polluters and against government incentives to protect the environment. This perverse result points to a serious imbalance in the current international trade regime.

The issue of indirect subsidies is likely to become a contentious issue as the costs associated with environmental compliance and industrial conversion increase. For example, the EEC recently considered applying a carbon tax. This raised the concern that fuel-intensive industries might shift production to jurisdictions without such a tax, resulting in diminished industrial competitiveness and undermining the policy goal of reducing global carbon dioxide emissions. Trade restrictions that compensate for the indirect subsidy accruing to free riders may be necessary to ensure the effectiveness of a carbon tax or other major environmental control initiatives.

One U.S. Congressional initiative, the proposed International Pollution Deterrence Act of 1991 (S.984), would amend U.S. countervailing duty law so that, "the failure to impose and enforce effective pollution controls and environmental safeguards shall constitute the bestowal of a bounty or grant within the meaning of this section. The amount of the bounty or grant derived from the absence of effective pollution controls and environmental safeguards shall consists of the cost which would have to be incurred by the manufacturer or producer of the foreign articles or merchandise to comply with environmental standards imposed on U.S. producers of the same class or kind of merchandise." Although there is little chance that this specific piece of legislation will be enacted, it points to a concern in the U.S. Congress that may make its way into U.S. trade law in the medium term, especially under a Democratic administration. There is a significant body of public and Congressional opinion that seeks to "level the playing field" by removing what many perceive to be subsidies to foreign industries in the form of lower environmental standards. The legislative goal would be to ensure that imports to the U.S. fully reflect their environmental costs, at least to the extent that U.S. laws require such internalization.

The absence of a "level playing field" impedes environmental policy initiatives. Without reforms that incorporate environmental protection principles into the international trade and investment regimes, governments may be forced to choose between adhering to environmentally flawed international trade rules and responding to the strong public demand for more effective environmental protection. As current controversies like the Tuna-Dolphin case in the U.S. suggest, public opinion is inclined to value environmental protection over trade liberalization in instances where these conflict.

Environmental economic instruments in the FTA, NAFTA and GATT

To date, no international trade agreement protects environmental economic instruments from challenge as non-tariff trade barriers. Canadian negotiators hoped to agree with the Americans on a common set of rules governing allowable subsidies in the Canada-U.S. FTA. But the issue of subsidies and countervailing duties was left unresolved by that agreement. The stopgap provisions on subsidies and countervail in the FTA will be made permanent in NAFTA, with deadlines for reaching agreement replaced by a pledge for further consultation. The Dunkel Text of the GATT Draft Final Act, which forms the basis for continuing GATT negotiations, deleted EC proposals to protect environmental programs in the face of strong opposition from the Bush administration.[337]

Subsidies and Countervailing Duties in the Canada-U.S. FTA.

The highest priority of the Canadian government in entering free trade negotiations with the U.S. was to achieve "a better, clearer set of rules to govern the largest trading relationship in the world [and] to provide the predictability Canadian exporters need."[338] At the heart of this concern was the desire for clear rules governing the use of subsidies and Countervailing duty laws. As Prime Minister Mulroney declared in 1987, "our biggest priority is to have an agreement that ends the threat to Canadian industry from U.S. protectionists who harass and restrict exports through the misuse of trade laws."[339]

---

[337] GATT. Trade and Environment: Factual Note by the Secretariat August 1991. pp. 16-17. On the Bush administration's position see Steve Charnovitz, "Trade Negotiations and the Environment," BNA International Environment Reporter (Washington, D.C.) March 11, 1992. p. 146.

[338] See Minister for International Trade and Secretary of State for External Affairs, Canada, Canadian Trade Negotiations, December 15, 1985.

Aware that the U.S. Congress was unwilling to accept constraints on U.S. trade remedy laws, American negotiators never adequately responded to Canadian negotiators' insistent proposals for new subsidy/countervailing duty rules. According to an Ontario government report "Furthermore, both sides strongly disagreed on how to approach a common set of rules. While Canadian negotiators were aiming at an agreement over a set of new and clearer rules that would require further discipline on subsidies, thus making countervailing duty redundant, U.S. negotiators were more interested in identifying those current Canadian programs that in their view should be curtailed."[340] Despite an eleventh hour walkout of the Canadian negotiating team, the temporary breakdown of the talks, and a hasty last-minute compromise, U.S. trade remedy powers remain intact under the Canada-U.S. FTA.

Under the FTA, U.S. trade laws "including relevant statutes, legislative history, regulations, administrative practices, and judicial precedents" continue to apply to Canadian exports.[341] The U.S. can amend its trade remedy laws without Canada's consent. If a new trade law or amendment specifies Canada, then it will apply (FTA, Article 1903). Moreover, Sec. 102 of the U.S. implementing act states that the laws of the U.S. are to prevail in a conflict with the FTA.[342]

---

[339] Brian Mulroney quoted in the Toronto Star October 5, 1987. Also quoted in Mel Clark, "Why renegotiating free trade won't work," Canadian Forum, June 1990, p. 10.

[340] Government of Ontario, Ministry of Industry, Trade and Technology, "The Question of Secure U.S. Market Access in the Canada-U.S. Free Trade Agreement," Toronto, May, 1988, p. 33.

[341] Canada-U.S. FTA, Article 1902 and H.R. Doc. no. 216, 100th Congress, 2nd session 208 (1988).

[342] H.R. Doc. no. 216, 100th congress, 2nd session 208 (1988), 43, 47. The most contentious issues were postponed. The FTA sets up a working party to negotiate a substitute system of rules for countervailing duties and subsidies. So far the U.S. has shown little interest in this process and the prospects for serious negotiation remain unchanged.

Binational review panels may now replace domestic judicial review when a countervailing duty or antidumping ruling is appealed (FTA, Article 1904). Chapter 19 panels simply rule on whether the domestic laws of the investigating country have been applied properly, not on the merits of the case or the fairness of the laws themselves.

As the government of Ontario concluded in 1988, "as to the principal goal of secure U.S. market access, there appears to be little change from the status quo [that is, pre-FTA]. Neither the present rules governing antidumping and subsidy/countervail investigations nor the administering bodies are affected in any way by the Agreement. The new binational dispute settlement panel ... does not possess any increased power or differing review mandate than the present system. ... Overall, the inability of the Agreement to secure meaningfully U.S. market access in effect maintains the vulnerability of Canadian exports to U.S. trade remedy laws and would not appear to reduce it in future."[343]

The outstanding issues regarding subsidy and countervail remain pertinent since a range of Canadian regional, economic, social, and environmental policies have been challenged as unfair trade practices under U.S. laws.

NAFTA

The Canada-U.S. FTA turned the unresolved issue of subsidies and countervailing duties over to further negotiations between the U.S. and Canada. Article 1907 called for the two countries to develop a new system of rules and disciplines governing subsidies and countervailing duties. If the two countries failed to reach agreement on a substitute system within seven years, Article 1906 provided that either party could terminate the Agreement on six-months notice.

The proposed NAFTA text makes this temporary arrangement permanent. Further progress on defining subsidies and countervailing duty rules has been left to "consultations." The 5 to 7 year FTA deadline has been eliminated, along with the recourse to abrogation.

---

[343] Ontario, "The Question of Secure U.S. Market Access in the Canada-U.S. Free Trade Agreement," op. cit. p. ii.

In addition, the U.S. succeeded in strengthening the "extraordinary challenge" powers over dispute settlement panels. Under the Canada-U.S. FTA an extraordinary challenge committee could be established to investigate allegations of "gross misconduct" or "serious conflict of interest" by panel members; a serious departure from a fundamental rule of procedure; or if the panel "manifestly exceeded its powers, authority or jurisdiction (FTA article 1904 (13))." NAFTA broadens these grounds to include the example of "failing to apply the appropriate standard of review (NAFTA article 1904(13))." According to Gordon Ritchie, Canada's deputy chief negotiator for the FTA, this opens the door for further "extraordinary challenges" (such as the USTR's unsuccessful appeals in the **Fresh Chilled and Frozen Pork** (1991) and Live Swine (1992) cases), "thereby adding time, expense and uncertainty to the process"[344].

The U.S. capability to act unilaterally under Section 301 and other trade laws remains unimpaired by NAFTA. No commitments were secured from the U.S. to obtain the sanction of a GATT or NAFTA panel before acting on its own. Key Congressional leaders had made clear, as they did at the outset of the Canada-U.S. FTA, that a NAFTA must maintain or strengthen existing U.S. trade remedy laws to be accepted by Congress. The Canadian government's aspirations to curb U.S. trade remedy powers, thwarted in the FTA and NAFTA, now rest on the Uruguay Round of the GATT.

The GATT Uruguay Round

Given the lack of substantive movement in the FTA and NAFTA, the Uruguay Round may eventually provide a subsidies code and trade remedy disciplines to govern Canada-U.S. trade relations. But even if successfully concluded, the Uruguay Round will not resolve the potential conflict between environmental economic instruments and domestic trade remedy laws.

---

[344] Ritchie, Gordon, "The Bottom Line: A More Prosperous North America", Globe and Mail, August 21, 1992, p. A17.

The 1990 Brussels Uruguay Round Draft Text contained reforms to the GATT Subsidies Code that would have classified some government assistance for environmental protection as "non-actionable," that is, not subject to trade challenge. With certain conditions, the proposed changes would have permitted government spending to adapt existing facilities to new environmental regulations and for research and development into new equipment and production processes to reduce pollution.[345]

The Bush administration strongly opposed this green light for environmental subsidies. As a result, the 1991 Dunkel draft text, which now forms the basis for the Uruguay Round talks, deleted the proposals. The U.S. maintains that its opposition was directed to the concept of a non-actionable subsidy rather than at environmental subsidies per se.[346] However, the U.S. has accepted other non-actionable subsides, including a green light for national security and energy development and exploration subsidies in the Canada-U.S. FTA. The U.S. corporate community firmly supports the Administration's hard line on environmental subsidies.[347]

---

[345] The draft subsidies agreement defined as "non-actionable," subsidies that promote:

1. adaptation of existing facilities to new environmental requirements imposed by law and/or regulations which result in greater constraints and financial burden on firms, provided that the assistance:

(i) is a one-time, non-recurring measure; and
(ii) is limited to [20] per cent of the cost of adaptation, and
(iii) does not cover the cost of replacing and operating the assisted investment, which must be fully borne by firms;
(iv) is directly linked to and proportional to a firm's planned reduction of nuisance and pollution, and does not cover any manufacturing cost savings which may be achieved;
(v) is available to all firms which can adopt the new equipment and/or production processes.

2. adoption of new equipment and/or production processes which will avoid, reduce or eliminate nuisances and pollution even further than existing environmental requirements imposed by law and/or regulations, provided that such assistance is granted fro the purpose of carrying out research and development activity with a view to evolving new products or production techniques which pollute less, or provided that such assistance:

(i) is granted for dissemination of production techniques which pollute less (i.e. to encourage firms to prefer such techniques), and
(ii) respects the conditions listed under (1) above.

cited in GATT. **Trade and Environment: Factual Note by the Secretariat** (Geneva, 1991), p. 17.

Broader implications for environmental economic instruments

As illustrated, a range of environmental economic instruments may run afoul of U.S. trade laws. Narrow commercial interest usually drives U.S. trade remedy cases. U.S. firms routinely use trade laws to enhance their competitive advantage. Larger considerations, such as the environmental benefits of programs being challenged, are not taken into account. More broadly defined national and even commercial interests would include a commitment to a cleaner environment and sustainable development.

This highlights the need to reform international trade rules to protect and encourage environmental programs. Canadian -- and other -- governments should press for appropriate reforms to international trade rules and institutions to permit needed environmental measures. In the interim, periodic trade remedy cases are unavoidable. Ontario, like other U.S. trading partners, is in the position of having to face this constraint without diminishing its commitment to environmentally sustainable economic development.

---

[346] Steve Charnovitz, "Trade Negotiations and the Environment," **BNA International Environment Reporter**, March 11, 1992. p. 147.

[347] The U.S. Council for International Business recommends that "government subsidies to enterprises for environmental purposes, which are sectorally or regionally specific, and which cause injury to other parties, should remain actionable under GATT rules." See U.S.C.I.B., "An Integrated Approach to Environment and Trade Issues," (New York: May 1, 1991), p. 9.

The U.S. Council is the American affiliate of the International Chamber of Commerce, the Business and Industry Advisory Committee to the OECD and the International Organization of Employers. "As such, it officially represents U.S. business positions in the main intergovernmental bodies, and vis-a-vis foreign business communities and their governments." U.S. Council for International Business, Annual Report, 1990-91, p. 1.

There are three broad options when an environmental program is successfully challenged as a non-tariff trade barrier: adjustment, autonomy, and abandonment.

The first option, preemptive adjustment, is to deliver pollution abatement and other environmental control programs in a manner defensible under U.S. trade law. Incentives or subsidies which are not tied to export performance and are "generally available" throughout the territory of the level of government that offers them are, arguably, acceptable under U.S. countervailing duty laws.[348]

One Canadian regional policy-making exercise illustrates the difficulties inherent in designing programs to comply with U.S. trade laws. In the mid-1970s the Canadian federal government reorganized its regional development and industrial assistance programs, in part to conform to U.S. countervailing duty laws. The Industrial and Regional Development Program (IRDP) made industrial assistance "generally available" within certain "objectively" designated regions. Levels of assistance within these regions varied on the basis of a "development index." The attempt to avoid U.S. punitive duties failed. Monies allocated under IRDP have been repeatedly countervailed by U.S. authorities.[349]

A similar example involves the fate of British Columbia and Quebec forest management programs in the 1992 Softwood Lumber case [see detailed analysis, Chapter 7 of this study]. Both provinces negotiated approval of their forest management plans following the 1986 Canada-U.S. Memorandum of Understanding replacing countervailing duties with a Canadian export tax.[350] The forest management schemes were essentially unchanged between MOU approval and the countervailing duty case. Despite this, countervailing duties were imposed on lumber exports from both provinces in a 1992 U.S. decision.

---

[348] The Dunkel draft of the Uruguay Round Subsidies Code, in contrast to current U.S. practice, deems subnational subsidies to be "specific" and countervailable even if they are "generally available" within the jurisdiction of the sub-national government. The Canadian government has stated that changing this definition of "general availability" is its top priority in ongoing Uruguay Round negotiations. Some U.S. governors have also expressed their displeasure with this definition. See Inside U.S. Trade, December 4, 1992.

[349] Some examples are Certain Fresh Atlantic Groundfish (1986); Certain Softwood Lumber Products (1986, preliminary); Portable Seismographs (1992, preliminary). In New Steel Rails (1989) IRDP was found to be "not used'" but nonetheless countervailable.

Adjusting domestic programs to comply with U.S. trade remedies can diminish the effectiveness of a program by diverging from its original policy objectives, increasing its cost, and distorting its allocation criteria. IRDP proved to be a poor tool for regional development. Because it was generally available most funds were spent in the developed regions of the country simply because that is where most applicants were found.[351] Under the softwood lumber Memorandum of Understanding British Columbia was compelled to amend its Forest Act to transfer the costs of forest renewal on public lands to the private sector licensees. This reflected the American view that public reforestation programs were trade-distorting subsidies.[352]

Because of the magnitude of environmental problems and the substantial costs involved in industrial clean-up and conversion, "generally available" subsidies or fiscal incentives will be prohibitively expensive for many purposes. Given budgetary constraints, it will be necessary in most instances to limit expenditures and to target resources to regions or sectors where they are most urgently needed or likely to be most effective. This exercise of discretion and/or targeting of resources to industries, sectors, or regions opens such programs to challenge under U.S. trade law.

---

[350] See "U.S.-Canada Memorandum of Understanding on Trade in Softwood Lumber with Amendments." (Washington, U.S. Department of Commerce: 1990).

[351] E.g. in 1984-85 the Department of Regional Industrial Expansion directed 41.8 per cent of the IRDP budget to Ontario and Quebec, while the four Atlantic provinces combined were allocated just 17.8 per cent. See Donald Savoie, Regional Economic Development: Canada's Search for Solutions (Toronto: University of Toronto: 1986) p. 121 and Scott Sinclair and Michael Clow, "Regional Disparities," in Duncan Cameron, ed. The Free Trade Deal (Toronto, James Lorimer: 1988), p. 190.

[352] "U.S.-Canada Memorandum of Understanding on Trade in Softwood Lumber with Amendments." (Washington, U.S. Department of Commerce: 1990), p. 35.

If the allocation process relies on objective, and neutral criteria then the program may be defensible before the U.S. administering authorities. If the eligibility criteria were environmental rather than economic in nature (if, for example, resources were made available to the worst polluters on the basis of an objective "pollution index") the prospects for avoiding countervail are uncertain. Whatever the allocation criteria, if, in the view of the U.S. authorities, a firm exporting to the U.S. benefits from a program, then a countervailing duty case may be successful.

Attempts to conform to U.S. trade law are doubtful at best. The U.S. authorities exercise discretion on a case-by-case basis. U.S. trade laws and practice are constantly changing. In short, the prospects for secure access to the U.S. market are poor and the adjustment costs significant.

A second option is simply to accept periodic punitive tariffs as a cost of doing business in the U.S. To absorb these costs maintains challenged programs. The economic impact of U.S. trade actions will vary from case to case, depending on the level of duty, strength of U.S. consumer demand, and the availability of alternative sources of supply. The punitive charges will apply only to exports to the U.S. market. Domestic and third-country markets are unaffected. In certain instances the higher costs of imports may be borne partly by the U.S. consumer. This approach, where it is possible, can safeguard sovereignty and encourage creative environmental control options.

Such an approach may, however, be costly for trade-dependent industries or sectors. It may reduce exports to U.S. market. It can negatively impact profitability of the affected industry. It may increase export uncertainty, legal costs, and diplomatic friction. It invites heightened business opposition to environmental regulation. It may adversely influence investment decisions. It may also increase the overall cost of environmental programs.

A final option is to end challenged programs, or to adopt the U.S. model. Such harmonization ends programs for the entire country simply to safeguard that portion of output destined for the U.S. market. It removes the example set to other jurisdictions, chilling innovative regulation. The environmental costs of eliminating a program may well exceed the economic impact of the U.S. trade action. The loss of incentives may negatively impact industry's willingness to and ability to invest in pollution abatement or other environmental technology. Where strong commercial considerations drive a U.S. trade case, abandoning disputed programs may not assure secure access to the U.S. market.

A flexible, case-by case approach is required. From an environmental standpoint, an autonomous approach, defending effective environmental programs, is most desirable and in many cases the accompanying trade costs will be tolerable. Where trade dependence is very high, bilateral negotiation and domestic program adjustment may be necessary. Abandoning effective environmental programs is an unacceptable limitation on sovereignty and a last resort.

6. CONCLUSION

Economic incentives are only one tool available to governments to promote environmental protection. Education and regulation are two other important vehicles. Financial incentives are not appropriate to all environmental problems, but they are likely to be a key element in any environmental policy mix. The flexibility to employ environmental economic instruments needs to be defended in the face of trade challenges.

The U.S. administration's historic antipathy to environmental subsidies, in its domestic trade laws and in international negotiations, underscores the difficulty of securing agreement on environmental economic instruments in the GATT negotiations and **a fortiori** in bilateral or trilateral talks within North America.

Ideally, reforms to international trade rules would establish clear language allowing governments to take measures necessary to protect the environment, permitting environmental subsidies and authorizing countervailing measures against indirect subsidies resulting from the failure to regulate or enforce high environmental standards.

Canada would find international allies if it pushed strongly for environmental renewal of international trade rules and institutions. A significant constituency for reform exists within the U.S. itself, among

Congress, environmental groups and the American public.[353] There is little sign that Canadian negotiators have led on the environmental issue. In some respects, the Canadian position lags behind even the U.S.[354]

Bilateral and multilateral negotiations including the FTA, NAFTA, and the GATT as well as the OECD Working Group on Trade and Environment are developing trade rules that will almost certainly apply retroactively to domestic environmental policies. Many of these matters fall within provincial jurisdiction. Provincial governments need to continue to press Ottawa to develop strong positions on trade and environment in international negotiations.

Although there is a clear need for reform, international trade negotiations are still conducted with little consideration of environmental implications. Public and legislative pressure forced the NAFTA parties to pay lip service to environmental concerns, but the results have been disappointing.

Until adequate international rules are in place, governments must preserve their domestic options and policy flexibility. Sovereign measures can drive the process of international environmental reform. The most effective impetus for change is local examples of effective environmental initiatives. Canadian governments should defend their rights to employ environmental economic initiatives, while accepting the right of their trading partners to do likewise.

---

[353] House Concurrent Resolution 246 (The Waxman-Gephardt resolution, 1992) expressed the resolve of the Congress to not approve legislation to implement any trade agreement, including both the Uruguay Round and the NAFTA, if such agreement jeopardizes U.S. health, safety, labour or environmental laws.

[354] U.S. environmental officials complain privately that the Canadian delegation at the OECD Working Group on Trade and Environment focused mainly on restraining U.S. unilateralism on environmental issues and was reluctant to support U.S. initiatives to open the dispute settlement process to environmental concerns. Washington interviews, May, 1992.

Chapter 7

The Use of US Trade Remedy Laws: Case Study of the Softwood Lumber Disputes

by Scott Sinclair

1. INTRODUCTION

Softwood lumber has been the most contentious dispute in recent Canada-U.S. trade relations. Since 1983, there have been three successive U.S. countervailing duty actions against Canadian lumber exports, in each case dealing with charges of government subsidization. If imports are found to be subsidized and to cause or threaten material injury to a U.S. industry, then they may be countervailed. The United States International Trade Commission (ITC) determines whether a U.S. industry has been injured, while the U.S. Department of Commerce (DOC) determines the level of foreign subsidy. The remedy is a punitive duty on the allegedly subsidized imports which is equal to the estimated net subsidy.

Softwood lumber is one of Canada's largest exports to the U.S., amounting to U.S.$5,234 millions in 1990. The industry is highly cyclical. The share of total Canadian production exported to the U.S. declined from 61.8% in 1986 to 51.8% in 1990[355]. U.S. interests have employed trade laws to restrict import competition during market downturns. This strategy has been lucrative, especially for large U.S. forest companies that own standing timber. Conversely, punitive tariffs have made the hard times even harder for Canadian industries.

---

[355] U.S. ITC. (1991), Softwood Lumber from Canada (preliminary), U.S. ITC publication 2468, Washington, D.C.

Environmental and resource management issues are central to the softwood lumber dispute. Provincial governments' rights to set stumpage, to subsidize silviculture and reforestation, and to maintain raw log export controls have all been challenged. The principal legal issue in the decade-long "lumber wars" has been whether provincial stumpage fees (the prices charged to cut standing timber) are so low that they subsidize the Canadian forest industry. Reforestation and silviculture subsidies were adversely affected by the 1986 bilateral Memorandum of Understanding that replaced a U.S. countervailing duty with a Canadian federal export tax. In the most recent case, the U.S. alleged that Canadian restrictions on raw log exports confer a countervailable subsidy.

Part I of this chapter reviews the history of the dispute and discusses the key legal issues and shifting interpretations of U.S. trade law in the successive countervailing duty cases. The paper concludes with a discussion of the softwood lumber case's implications for Canada-U.S. trade relations and Canadian resource management policy.

Underlying the legal, economic and environmental aspects of the dispute are structural differences between Canada's predominantly public resource ownership and management and the U.S.'s mainly private system. Trade friction results in persistent pressure for Canada to adopt a U.S.-style system. The lumber case goes to the heart of concerns about the impact of U.S. trade politics on Canadian sovereignty.

2. HISTORY OF THE DISPUTE

Lumber I (1983)

In 1983 the DOC ruled that stumpage did not constitute a countervailable subsidy since it was not provided to a specific industry or group of industries. The DOC reasoned that stumpage was generally available within Canada, without government limitation, to a wide-range of diverse industries[356]. The DOC further ruled that stumpage systems did not result in the sale of timber at preferential rates.

Lumber II (1986)

In 1986 the Coalition for Fair Lumber Imports, a U.S. timber producers' lobby group, initiated a second countervailing duty case against Canadian softwood lumber. Although U.S. trade law had not changed substantively since 1983, the Coalition successfully argued that new evidence proved that provincial subsidies were targeted to specific industries and that the DOC's interpretation of countervailing duty law had evolved sufficiently to permit a different ruling. In its 1986 preliminary ruling the DOC reversed Lumber I and recommended a countervailing duty of 15 per cent.

The Memorandum of Understanding (1986-1991)

Before the Lumber II case was concluded, Canada negotiated an "out-of-court" settlement. Under the Dec. 30, 1986 Memorandum of Understanding (MOU) the U.S. industry agreed to withdraw its countervailing duty petition. In return, Canada agreed to collect a 15 per cent charge on softwood lumber exports to the U.S. This meant that a 15% surcharage would still be levied on Canadian softwood lumber exports, but that the revenues would go to Canada instead of the U.S.

However, the MOU also provided for "replacement measures," permitting provinces to change their stumpage systems to impose greater costs on industry and to collect higher revenues. B.C. and Québec submitted their forest provincial management plans for U.S. approval under the MOU standard.[357] The Canadian export charges on B.C. and Québec softwood lumber were reduced to 0 and 3 per cent, respectively. However, the negotiation of replacement measures resulted in far-reaching U.S. government and private industry influence over provincial forest management policies[358]. Ontario elected not to utilize replacement measures and its exports remained subject to the 15 per cent charge.

---

[356] Federal Register 48: 24617.

[357] B.C. reached agreement with the U.S. on Dec. 16, 1987. Québec struck deals on April 7, 1988 and Oct. 31, 1990.

Canadian industry and governments chafed at the loss of policy flexibility. Under the MOU replacement measures regime, policy initiatives affecting the cost of B.C. and Québec timber were subject to negotiation with the U.S. government. Because the U.S. government consulted closely with its own domestic industry, its U.S. competitors acquired unprecedented influence over Canadian forest management policy in an era when Canadian forest companies were experiencing serious economic difficulties.

Canada terminated the MOU effective Oct. 4, 1991. Confidence was high that the intervening changes to provincial forest management systems would lead the U.S. to recognise that the Canadian industry was free of trade-distorting subsidies. The Canada-U.S. FTA and the new recourse to FTA dispute settlement provisions also contributed to optimism that Canadian softwood lumber could avoid new U.S. countervailing duties.

Lumber III (1992)

The U.S. response to the MOU termination was sharp and swift. The DOC immediately launched a third countervailing duty case against Canadian softwood lumber. On Mar. 12, 1992 the DOC ruled preliminarily that Canadian softwood lumber exports were subsidised, recommending a 14.48 per cent duty. In its final affirmative ruling the DOC recommended a 6.51 per cent duty on all Canadian softwood lumber exports. On June 25, 1992 the U.S. International Trade Commission affirmed its preliminary ruling of injury, concluding the case. Canada asked for a review of the case under the dispute resolution provisions of the Canada-U.S. FTA.[359]

---

[358] U.S. DOC. (1990), U.S.-Canada Memorandum of Understanding on Trade in Softwood Lumber with Amendments, Washington, D.C.

KEY LEGAL ISSUES IN LUMBER III

Specificity

The U.S. does not automatically impose a countervailing duty on all foreign domestic subsidies. The DOC usually interprets U.S. trade legislation to mean that domestic subsidies that are "generally available" to all industries are *not* countervailable. In a countervailing duty case, DOC's first task is to find that a foreign domestic program is specific, i.e. "limited, either *de jure* or *de facto*, to a specific enterprise or industry, or group of enterprises or industries".[360] The long and complicated softwood lumber dispute demonstrates that the distinction between "specific" and "generally available" is grey. Indeed, "(s)pecificity has been the most litigated aspect of U.S. countervailing duty law."[361] Rulings have shifted with the prevailing U.S. economic and political tides.

Legal background: Lumber I and II

In Lumber I, the DOC ruled that stumpage fees were not specific, ending the case. The DOC reasoned that stumpage fees were not limited to a "'group of enterprises or industries' because (1) any limitations on use were not due to the activities of the Canadian governments and (2) the actual users of stumpage spanned a wide range of industries."[362] Inherent resource and technological considerations, *not* government policy, limited the benefits of stumpage to certain industrial users.

---

[359] The panel decision on the Commerce Department's CVD review was released May 6, 1993. The decision on the USITC's injury decision is due July 27, 1993.

[360] U.S. DOC. (1989). Countervailing Duties; Notice of Proposed Rulemaking and Request for Public Comments. Federal Register, May 31. Washington, D.C. Furthermore, a program will be deemed specific "if the Secretary determines that benefits under a program are limited to enterprises located in a specific region or regions of a country." (Federal Register 54, 103: 23379).

[361] Canada, Government of, et. al., Joint Case Brief in the matter of Certain Softwood Lumber Products from Canada, U.S. DOC. Washington, D.C. April 21. 1992, Specificity: 9.

[362] Federal Register 51: 21206.

Following the 1983 case, the DOC upheld a similar interpretation of general availability in a series of case against Mexican products benefitting from Mexico's two-tier pricing of energy.[363] Under mounting pressure from industry, Congress, and the Court of International Trade, DOC modified its position in 1986. U.S. competitors were particularly galled by the fact that Mexican pricing policies were accompanied by tough restrictions on foreign investment in the energy sector[364]. In the *Carbon Black from Mexico* case the DOC accepted that although a program might nominally be generally available, in practice it could be restricted to a few, specific users[365]. A countervailing duty was levied against the Mexican product.

Using *Carbon Black* as a precedent, the Coalition for Fair Lumber Imports petitioned for a second countervailing duty case against Canadian lumber in 1986. Although U.S. trade law had not changed since Lumber I, the petitioners argued successfully that new evidence indicated that provincial policies limited the use of stumpage programs to specific users. On Oct. 16, 1986 the DOC's preliminary ruling recommended a 15 per cent countervailing duty on Canadian softwood lumber.

In this ruling the DOC rejected its 1983 finding that stumpage fees were not specific. It ruled that four provincial governments exercised discretion in the allocation of stumpage, skewing its distribution in favour of lumber producers. Moreover, it overturned its previous ruling that users of lumber constituted a variety of industries, claiming instead that the market for timber basically consisted of one industry[366].

---

[363] In two-tier pricing export prices are higher than internal-use prices.

[364] Percy, Michael B. and Christian Yoder, The Softwood Lumber Dispute and Canada-U.S. Trade in Natural Resources, Halifax: Institute for Research on Public Policy, 1987, p. 48.

[365] Federal Register 51: 13269.

[366] Federal Register 51: 37453, 37455.

As noted, Lumber II was settled "out of court" after Canada and the U.S. signed the MOU. The federal government placed a 15 per cent charge on softwood lumber exports. In return, the U.S. industry agreed to withdraw the countervailing duty petition. The memorandum was explicitly "without prejudice to the position of the either Government as to whether the stumpage programs and practices of Canadian governments constitute subsidies under United States law or any international agreement."[367] Canada also insisted on an amendment to the notice of termination by the U.S. government, to the effect that "(t)he preliminary affirmative countervailing duty determination on certain softwood lumber products from Canada is henceforth without legal force and effect."[368]

The Lumber III decision

The Canadian case in Lumber III drew heavily on the 1983 ruling. Canada contended that the 1986 preliminary decision had no legal force or precedential value. However, in Lumber III, the DOC explicitly rejected the key elements of the 1983 decision, relying instead on reasoning that expanded upon the 1986 decision.

(i) industry grouping

In Lumber I, the DOC found that stumpage programs were not specific because they were used by a wide range of industries. The DOC reversed that ruling in Lumber III, determining that stumpage programs are in fact limited to a specific group - the primary timber processing industries[369]. This group was defined as comprised of two basic manufacturing industries: "solid wood products" (which includes logs) and "pulp and paper products."

This conclusion, essential to the finding of specificity, ignores the Standard Industrial Classification

---

[367] U.S. DOC. (1990), p.3.

[368] Federal Register 52: 2751.

[369] Federal Register 57: 22583.

(SIC) used by both the U.S. and Canada. Canada suggested that stumpage holders fell into at least 27 groups of industries under the SIC. The DOC, however, focused on the raw material used rather than on the variety of end products produced. This rationale contrasted starkly with that in Lumber I and with Canadian arguments.

(ii) "inherent characteristics"

In Lumber III, the DOC explicitly rejected its 1983 ruling that inherent resource and technological considerations limited the benefits of stumpage to certain users. Stumpage, by its very nature, can potentially benefit only users of wood. As Canada noted, "the fact that stumpage is wood, not money, necessarily limits the universe of potential users"[370]. The "inherent characteristics" of standing timber, not the policies of Canadian governments, limit the use of the program to a group of users.

Canada argued, based on Lumber I, that "purposeful government action" was a prerequisite for a finding of specificity.

> It is therefore clear that where government action is product- and industry-neutral and the only limitation on use results from inherent characteristics, there is no basis for a finding of specificity...[371]

The DOC explicitly rejected this argument and its own 1983 reasoning.

> (W)e conclude that the Department's use of the "inherent characteristics" test in Lumber I was ill-advised and we decline to follow it.[372]

The DOC held In Lumber III that Congress overturned the inherent characteristics test in the 1988 Omnibus Trade and Competitiveness Act[373]. The DOC cited *Carbon Black* as a precedent. In that case natural gas and carbon black feedstock (that is, raw material for further processing) were provided by the government of Mexico (through Pemex the state-owned oil company) without limitation[374]. The inherent characteristics of carbon black feedstock, and the level of technology required to utilize it, limited users to two industries. Nevertheless, the Department focused on the *de facto* benefit conferred to these two industries rather than on carbon black's nominal "general availability."

---

[370] Canada, Government of, et. al., Joint Case Brief in the matter of Certain Softwood Lumber Products from Canada. U.S. DOC. Washington, D.C. April 21. Specificity: p.25.

[371] Canada, et. al, 1990, Specificity: 32.

[372] Federal Register 57: 22582.

[373] Omnibus Trade and Competitiveness Act of 1988, 19 U.S.C. Section 2901 (1988).

Canada argued for a narrow reading of *Carbon Black*, contending that

> *Carbon Black* did not disturb the doctrine of inherent characteristics. Rather, it simply established the qualification that benefits having certain inherent characteristics that limit their use may still be countervailable when government action limits the universe of potential users to one or two users.[375]

The DOC rejected Canada's emphasis on "purposeful government action." In its opinion, *Carbon Black* overturned the "inherent characteristics" test. Moreover, Congress endorsed the *Carbon Black* decision in the 1988 Omnibus Trade and Competitiveness legislation. Congress clarified its intentions by making improved rules on natural resource input subsidies a principal negotiating objective of the United States[376]. The DOC was swayed by its perception of Congressional intent, not Canada's legalistic arguments.

Preferentiality

Once the DOC has determined that a government program is specific, its next step is to determine whether the good or service is provided at preferential rates. In most instances "preferential" means treating some within the relevant jurisdiction more favourably than others within the same jurisdiction[377]. To determine preferentiality, the DOC compares the price of the publicly-provided good or service to a benchmark price that purportedly represents its market-based value.

---

[374] op.cit.

[375] Canada et. al., op.cit., Specificity: 34.

[376] Federal Register, op.cit.

[377] Federal Register 54: 23380.

The U.S. countervailing duty methodology is laden with difficulties and value judgements when applied to publicly owned and managed resources. Governments own 80% of Canadian forests, compared to 20% in the U.S. Stumpage charges are just one part of complex forest management systems used by provincial governments. In return for tenures to exploit public forests, companies assume obligations such as the development and implementation of forest management plans, road construction, silviculture, and environmental compliance[378]. It is difficult to quantify these costs and to decide on an appropriate benchmark. The required judgements are complicated, arbitrary and easily contrived.

Normally, the benchmark price "will be the nonselective prices the government charges to the same or other users of the good or service within the same political jurisdiction"[379]. However, in cases like *Softwood Lumber*, where there are a "limited number" of users of the government-provided good or service, a different benchmark may be chosen. In such instances the DOC now relies on a "preferentiality index" developed in the *Carbon Black* case.

The "preferentiality index" suggests a series of methods for establishing a benchmark price. These alternatives, in order of preference, are (1) prices charged by the same seller for a similar or related good or service (2) prices charged within the jurisdiction by other sellers for an identical good or service; (3) the same seller's cost of producing the good or service and (4) external prices[380]. This index gives the DOC considerable latitude in deciding an appropriate benchmark price on a case-by-case basis.

For many years the American softwood lumber industry has pressured the DOC to adopt U.S. prices as the appropriate benchmark. Such a cross-jurisdictional approach would ignore and neutralize any comparative advantage a foreign industry might enjoy over its U.S. competitors. In Lumber III the DOC rejected the Coalition for Fair Lumber Imports' contention that cross-border price comparisons of adjacent U.S. and Canadian timber prices were the appropriate benchmark[381]. A cross-border benchmark would have resulted in significantly higher duties. The Coalition maintains that subsidies on Canadian softwood lumber are between 25 and 30 per cent[382].

---

[378] Canada, et. al., 1990, Preferentiality: 2.

[379] op.cit.

[380] Federal Register 54: 23372.

In Lumber III, the DOC used prices within provincial jurisdictions as benchmarks. For B.C. the DOC compared stumpage prices of large tenures to competitively-bid stumpage prices in the Small Business Forest Enterprise Program. In Québec it compared the price of stumpage from private woodlots (about 10% of total log harvest in Québec) to administered stumpage prices. For Ontario the lower "integrated" rate (paid by pulp producers) was compared to the higher "non-integrated" rate (paid by lumber producers). In Alberta the pulplog prices under Alberta's three different tenure arrangements were compared to the softwood lumber price. Softwood lumber export volumes from Manitoba, Saskatchewan, and the Northwest Territories were judged too small to warrant a subsidy finding. Since the rights and obligations of major tenure-holders and smaller private bidders, as well as the commercial value of timber, vary considerably from contract to contract and region to region, comparisons are problematic. The DOC simply took price differentials as evidence of subsidization.

Log Export Regulations

The Coalition for Fair Lumber Imports raised a new allegation, that Canadian controls on raw log exports subsidize softwood lumber exports, in Lumber III. It argued that federal and provincial log export restrictions artificially inflate domestic supply which in turn lowers prices. The Coalition wanted the difference between the domestic and export price to be treated as a countervailable subsidy to the Canadian industry.

---

[381] Federal Register 57: 22592.

[382] Inside U.S. Trade, March 13, 1992.

On Oct. 31, 1991 in its notice of initiation, the DOC acknowledged that it lacked sufficient evidence to warrant investigating log export regulations. On Dec. 23, after interventions by the Coalition, the DOC decided to expand its investigation to include the log export regulations of B.C., Alberta, Ontario and Québec.

The DOC ultimately ruled that B.C.'s log export regulations were a countervailable subsidy, but that controls in Ontario, Alberta and Québec were not.

The U.S. case against log export controls was based on a recent precedent, *Leather from Argentina* (1990). In *Leather*, the DOC determined that an embargo on the export of raw hides, the primary input used in the manufacture of leather, was a countervailable subsidy.

Canada argued that *Leather* had been "wrongly decided," was inconsistent with international law, and was, in any event, distinguishable from the facts in the softwood lumber case[383]. The DOC took the opposite view that

> "(the) pre-*Leather* administrative determinations finding border measures in general to be *per se* noncountervailable pursuant to U.S. law were wrongly decided as contrary to Congressional intent"[384].

Citing *Leather*, the DOC used the price differential between domestic and export prices to estimate the alleged subsidy.

The DOC followed a three-step analysis and decision-making process, ruling the following:

(i) B.C. log export restraints can be considered a domestic subsidy within the meaning of U.S. legislation.

The DOC rejected the Canadian argument that since there was no "transfer of resources by government" that log export restraints were not a subsidy.

---

[383] Canada, et. al., 1990, Logs: 29 ff.

[384] Federal Register 57: 22606.

> "DOC disagree(s) with the Respondents' contention that, because B.C., according to respondents, has not made some kind of 'financial contribution' or foregone some government revenue, the B.C. export restrictions are not countervailable"[385].

The DOC ruled that the log export restraint constituted "indirect government action," conferring an "indirect subsidy" that falls within the meaning of domestic subsidy under U.S. trade legislation.

(ii) Log export restraints have a "direct and discernible" effect upon the B.C. domestic price of logs and therefore confer a benefit upon B.C. softwood lumber producers.

Canada built its case around three basic points. No causal relationship could be established between export restrictions and domestic price. The effect, if any, of export regulations on domestic prices could not be measured. The effect of Canadian log export regulations must be separated from the distortive effects of other countries' trade policies.

Again the DOC was not persuaded. It saw no need to establish the precise causal relationship between export restrictions and Canadian supply or the domestic price of softwood lumber. DOC relied instead on a "market distortion analysis" to calculate the benefit to B.C. lumber producers, i.e. it assumed that log export restrictions increased domestic supply, thereby depressing domestic prices. Nor did the DOC accept that it needed to isolate the effects of Canada's log restrictions on export prices from the effect of other countries' policies such as the U.S.'s own log export controls or Japanese trade policies that favour raw log imports.

(iii) The benefit to the Canadian industry is specific.

The DOC dismissed Canadian objections that quantitative restraints were non-specific. Canada asserted that, even if controls could be proved to subsidize, the effect would be industry-neutral. The beneficiaries would include all companies and industries that purchased logs, an even larger group than that of stumpage holders[386]. Following its reasoning with regard to stumpage, the DOC ruled that B.C. log export restraints benefit B.C. users of logs and are "specific" to essentially two industries: the solid wood products and the pulp and paper industry.

---

[385] Federal Register 57: 22609.

The new direction first taken in *Leather from Argentina*, and now reinforced in Lumber III, illustrates the growing politicization of U.S. trade remedies. Applying U.S. countervailing duty law to export restrictions greatly broadens the U.S. definition of subsidy. The DOC, by its own admission, overturned a long-standing and consistent administrative practice that export restrictions did not confer countervailable benefits. The legal reversal confirms that U.S. trading partners cannot rely upon past practice as a guide to future rulings. U.S. trade remedies are flexible enough to provide import relief, as required, to powerful domestic interests.

3. IMPLICATIONS OF THE SOFTWOOD LUMBER DISPUTE

Power bargaining

There has been a pronounced shift to *power-bargaining* tactics in U.S. trade policy. The U.S. is determined to use access to the world's largest single market as a lever to provide import relief to producers, gain negotiating concessions in sectors where the U.S. has a competitive advantage and attack foreign government policies and practices it considers contrary to U.S. interests.

The U.S.'s GATT obligations have not effectively checked its increasing resort to unilateralism. U.S. actions have, in fact, undermined multilateral trade institutions. U.S. trade remedies are *unilateral*, applying American laws and standards to foreign practices. They are also *non-reciprocal*, giving no consideration to whether American businesses or governments adhere to the same standards which are applied against non-residents. Finally, the approach is *coercive*, singling countries out and threatening their access to the rich U.S. market. The proliferation of U.S. trade remedies offends the GATT's basic principle, non-discrimination.

---

[386] Canada, et. al., 1990, Specificity: 55.

Frequently-made Canadian appeals to legal reasoning or economic rationality are beside the point in this power-bargaining environment. It must be recognised that, as a sovereign country, the U.S. has the capability to enforce its trade laws and that it will vigorously continue to do so. Once trade actions are taken, Canadian governments should look to their own sovereignty, reacting on a case-by-case basis.

Political factors

An American industry's level of political support obviously enhances its prospects for securing import relief. The U.S. forest industry has demonstrated its political influence and Congressional and Executive support on many occasions. Trade law administrators, even economic liberals, are anxious to arrive at a politically acceptable result. By proving that current trade legislation can provide effective import relief, they deflect pressures for more stringent legislative provisions.

Several factors point to political influence in Lumber III. The case was initiated by the DOC without a petition from the U.S. industry. This was the first "self-initiation" in the history of U.S. countervailing duty law. The U.S. administration invoked Section 301 to circumvent the usual process. Preliminary duties, supposedly based on an objective calculation of benefits to the Canadian industry, totalled 14.48 per cent, almost exactly replacing the 15 per cent export tax. The case was launched even though B.C. and Québec's revised forest management plans had recently received U.S. approval under the MOU, lifting the tax on exports to the U.S. Finally, a forest economist who served as the chief spokesperson for the Coalition for Fair Lumber Imports was appointed by the DOC to serve on the team investigating the case.

Congressional support is by no means extraneous to the conduct of a countervailing duty case. The U.S. remedy process is quasi-judicial and administration of trade statutes frequently requires interpretation of Congressional intent. Where a lobby succeeds in making this intent clear, administering authorities usually take heed. In the last instance, Congress can amend trade legislation to overturn unresponsive rulings.

Economic impacts

Profits for the 16 largest U.S. forest companies dropped 52 per cent in 1991, setting the stage for the U.S. countervailing duty action. Higher prices due to the countervailing duty and conservation rulings in the Pacific Northwest and the tax on Canadian imports will create a windfall for large U.S. companies, such as Weyerhaeuser and Louisiana Pacific, that have their own timber holdings[387]. Such companies are the driving force behind the Coalition for Fair Lumber Imports.

According to Canadian forest industry spokespersons, the costs imposed by the export tax and the MOU replacement measures contributed to the drop in Canada's share of the U.S. lumber market from 32 per cent in 1986 to 26 per cent in 1990[388]. However, it is difficult to isolate the effects of the export tax and replacement measures from other economic factors adversely affecting the industry. *A rising exchange rate* saw the Canadian dollar appreciate from a 15-year low of 72 cents U.S. to a high of 87.3 cents in 1991. In both Canada and the U.S., *decreasing housing starts* were well below their 1987 peak. Declines in the Northeastern U.S. began earlier and were more severe than in Ontario. *Falling Canadian lumber prices* reflected lower construction activity. Prices for unseasoned dimension framing lumber, delivered to Toronto, showed a downward trend from 1987 to 1991, after general increases the previous ten years.[389]

U.S. trade actions are not responsible for all the problems confronting Canada's lumber industry, but from its imposition in January 1987 to September, 1991, the 15 per cent export tax has resulted in an $96.4 million competitive disadvantage for the Ontario industry (and an equal amount of revenue to the provincial government).[390] These costs reduced the provincial industry's ability to remain profitable and compete in the U.S. market.

---

[387] Business Week, Jan. 13, 1992, p. 113.

[388] Financial Times, Mar. 25, 1991.

[389] Ontario Forest Industries Association. Testimony before the Ontario Environmental Assessment Board. April 23, 1992.

[390] ibid. p. 2.

The number of Ontario sawmills decreased by 27 per cent between 1986 and 1990. Between 1987 and 1990, exports of Ontario lumber subject to the export tax declined 37 per cent, from 2.3 to 1.5 million cubic metres. The majority of closures have been small sawmills, many of which served the Ontario market and were not directly affected by the tax. However, these mills were affected by increased competition from larger mills that traditionally shipped to the U.S.[391] While not solely responsible for these adverse impacts on the Ontario industry, the export tax has played a role.

Since Ontario's exports were subject to the 15 per cent export tax, cancellation of the MOU has meant reduced costs to industry. Ontario lumber products now face a 6.51 per cent duty. However, the Ontario government will lose the revenues from the 15 per cent tax previously collected.

Environmental implications

Despite losing Lumber III, Canada's decision to revoke the MOU was sound from the standpoint of resource management policy. The decision restored Canadian sovereignty and flexibility in reacting to changing economic conditions (including the U.S. countervailing duty action) and to the challenges of managing and conserving a slow-renewable resource.

The MOU replacement regime ceded excessive influence over Canadian forest policy to U.S. government and industry. In B.C. and Québec, for example, the replacement regimes shifted forest regeneration and other management costs from the public to the private sector. This reflected the U.S. view that silvicultural and regeneration costs borne by the public sector are countervailable subsidies.[392]

---

[391] For example, in 1986 E.B. Eddy Forest Products, like many Ontario sawmills, sold the majority of its lumber production, almost 60% by volume, to the U.S. Since 1987 U.S. sales have steadily decreased to just 17% of production in 1991. ibid. p. 3.

Another troubling aspect of Lumber III is the expansion of the U.S. definition of countervailable subsidy to include export restrictions, and by implication any border measures that "distort supply and demand." This rule, first applied in *Leather from Argentina* and now upheld in Lumber III, greatly increases the scope of U.S. countervailing duty laws and the discretion of those who administer them.

A country that restricted the export of tropical hardwoods to conserve rainforests, a move supported by many U.S. environmentalists and legislators, would now legally expose wood product exports to U.S. countervailing duty actions. Logically, log export controls maintained by the U.S. federal and state governments are now also challengeable by other countries. In fact, most conservation measures, by definition, distort supply and demand. Others may now be vulnerable to U.S. attacks as unfair subsidies.

By comparison, however, the blanket prohibition of export restrictions in Chapter 4 of the FTA and its proposed extension in NAFTA is a far more disturbing precedent. Exceptions that permit import and export controls for resource conservation purposes are a central demand of environmental non-governmental organizations seeking reforms to international trade rules. Sweeping general concessions in the FTA and NAFTA negotiations belie the federal government's spirited defence of log export controls in Lumber III.

Maintaining Canadian sovereignty and policy flexibility are vital to effective resource management. But to defend Canadian sovereignty from U.S. pressure should not be construed as a defence of "business as usual" in Canadian forests. Sovereignty is only one element of environmentally-sustainable forest development. Transferring regulatory power to Washington, as in the MOU replacement regime, would simply foreclose the vigorous domestic debate on the future of Canadian forest policy.

---

[392] For example, the replacement measure for B.C. required "legislative amendments to the Forest Act which will transfer to major licensees with long-term replaceable tenures the costs of achieving forest renewal on lands from which timber is harvested after September 30, 1987 (DOC 1990, Appendix 1: 2)."

Sovereignty

The softwood lumber dispute underscores the *ad hoc* and discretionary character of U.S. trade law. Canadian exports were investigated three times in ten years, using a different set of rules each time.[393] During the dispute the DOC reversed longstanding administrative practices, upheld new allegations and interfered with provincial resource policies - all at the behest of a politically influential domestic industry[394].

Structurally-different approaches to resource management in the two countries create unavoidable instability in the trading relationship. Public ownership and management, which evoke animosity from U.S. investigators, render Canadian lumber exports vulnerable to U.S. countervailing duty challenges. The softwood lumber rulings also provide the legal basis for a challenge to other Canadian forest exports, such as pulp and paper.

As Canada noted in its legal defence,

> throughout the past decade, each countervailing duty investigation, at its heart, has taken issue with provincial stumpage systems *not* because factual or legal analysis demonstrates that they confer countervailable subsidies, but because 'administered' pricing systems are thought to be inherently subsidizing.[395]

The rulings that stumpage and log export controls are trade-distorting subsidies appear to challenge government discretion *per se* rather than deliberate industrial targeting. As Percy and Yoder observed about Lumber II,

---

[393] Canada. "Softwood Lumber from Canada: What's wrong with the Department of Commerce's Preliminary Determination?" Media release. March, 1992.

[394] As the Canadian case brief points out, "in Lumber III, the Department has rejected every previously applied standard on the key issues of specificity and preferentiality, and for the first time in the decade-long "lumber wars," injected a wholly new subsidy allegation: that provincial log export regulations, on which U.S. log export regulations are modeled, are countervailable subsidies." (Canada, et. al, 1990, Introduction and Executive Summary: 3).

[395] Canada, et. al., 1990, Executive Summary: 6.

> the decision suggests that any exercise of the sovereign right of Canadian governments to set terms and conditions of access to Crown resources justifies the finding of specificity for the program or policy under investigation in countervail proceedings.[396]

Whether the DOC checks protectionist demands or not is essentially a political decision. The complex and arbitrary judgements required to compare public resource management with a hypothetical free market give U.S. administrators a great deal of latitude. Despite its pseudo-economic and legal trappings, their decision owes much to political calculations.

There is strong pressure from the U.S. for Canada to adopt the American system. Yet the U.S. system is not as open and competitive as often portrayed. For instance, Congress granted a subsidy of $400 million to the U.S. forest industry in 1984 and the U.S. forest service lost over $365 million in its timber sales programme in 1990.[397] U.S. trade law is blind to domestic practices similar to those being challenged. The U.S. maintains log export controls modelled after the Canadian ones attacked as a trade-distorting subsidy. The governors of Oregon and Idaho sided with Canada in condemning the DOC ruling against log export controls. Idaho Governor Cecil Andrus criticized the ruling on log export restraints as "sheer hypocrisy" because both the U.S. federal and state governments maintain similar restrictions.[398]

Harmonization with the U.S. system would unacceptably diminish Canadian sovereignty without necessarily ending trade frictions. Canadian industry and governments have little choice but to accept U.S. trade actions and periodic harassment as a cost of trading with the U.S.

---

[396] Percy, Michael B. and Christian Yoder, The Softwood Lumber Dispute and Canada-U.S. Trade in Natural Resources, Halifax: Institute for Research on Public Policy, 1987, p.553.

[397] See the response by Ambassador Derek Burney to a "compromise" proposal made by U.S. legislators to resolve the softwood lumber dispute. Reprinted in *Inside U.S. Trade* April 10, 1992.

[398] *Inside U.S. Trade* April 24, 1992.

FTA safeguards

Binational review panels can now replace domestic judicial review when a countervailing duty or antidumping ruling is appealed[399]. Chapter 19 panels merely rule whether the domestic laws of the investigating country have been applied properly, not on the merits of the case or the fairness of the laws themselves. As noted, Canada has requested a Chapter 19 FTA panel to review the softwood lumber case.

A review of dispute settlement cases up to November 1991 indicates that the process has reproduced rather than transcended the dynamics of unequal power bargaining. As expected, most Chapter 19 panels have been initiated by Canadian exporters. As of Nov. 5, 1991 there were 19 cases against U.S. agencies, involving 9 Canadian products. There were just four cases against Canadian agencies, involving 2 U.S. products. Two of the cases against Canada were brought by an American subsidiary of a Japanese transnational corporation[400].

This disparity underscores the missing impetus from the U.S. side for a strong bilateral regime governing trade remedies and disputes. In the only case involving a *bona fide* U.S. complaint regarding beer, the U.S. circumvented the dispute settlement process. Although the panel decisions on Canadian dumping duties against U.S. beer were not due until August, 1992, in December 1991 U.S. Trade Representative Carla Hills threatened Canada with Section 301 action. When a tentative settlement deal unravelled because of U.S. objections to an Ontario deposit program for non-refillable beer containers, the U.S. unilaterally imposed a 50 per cent tariff on Ontario-brewed beer (see discussion elsewhere in this study).

Under the terms of the FTA, all the Chapter 19 cases against U.S. agencies have been reviewed under U.S. law. A binational panel performs a judicial review function and cannot hear evidence or conduct a new, independent trial. It must either uphold a final determination or remand it for "action not inconsistent with a panel's decision."

---

[399] Canada-U.S. Free Trade Agreement, Minister of Supply and Services Canada, 1988, Article 1904.

[400] Binational Secretariat, 1991.

Given these strict constraints, binational panels have been fairly assertive. Cases involving Canadian raspberries and pork have been remanded (that is, sent back for reconsideration), which resulted in the U.S. agency dropping punitive duties. On the other hand, prohibitive U.S. duties against Canadian steel rails and against paving equipment have been upheld. A number of other cases have been terminated, some as the result of negotiated "out-of-court" settlements.

Despite these modest successes the process deserves close scrutiny. Similar remands were not uncommon before the U.S. Court of International Trade, the previous avenue for judicial review. In the steel rail case, the panel upheld exorbitant punitive duties of 94.57 per cent. In the pork case, a small, regional U.S. industry commanded sufficient political support in the U.S. Congress to force an "extraordinary challenge" of the panel decision.[401] Although the challenge committee upheld the panel's remand, the move was a clear warning to Canadian pork producers that increased exports into the U.S. would be met by further U.S. trade actions.

Finally, the body of rulings and precedents being built up by the panels is based on U.S. trade law. The U.S. can change these laws unilaterally to negate the effect of an unfavourable panel ruling. Perhaps more importantly, prior to participating in these binational panels Canada had never agreed that its agricultural support, regional development or transportation programs were trade-distorting or illegitimate subsidies. In these and other instances, *binational* panels have upheld U.S. rulings against such programs.

This marks an important shift in Canada's trade diplomacy. The risk is that Canadian participation in the panel process will sanction adverse decisions. This will weaken Canada's position in subsequent international subsidy negotiations, including those arising from the FTA or NAFTA.

---

[401] Canada charged that the case was an abuse of the extraordinary challenge provisions. The FTA limits extraordinary challenges to cases where the original panel decision involved gross misconduct or conflict of interest, departure form a fundamental rule of procedure, or when the panel exceeds its authority or jurisdiction. *Inside U.S. Trade* July 17, 1992. U.S. negotiators were successful in broadening the "extraordinary challenge" provisions in the NAFTA.

The FTA safeguards are limited. Under the agreement, U.S. trade laws "including relevant statutes, legislative history, regulations, administrative practices, and judicial precedents" continue to apply to Canadian exports.[402] The U.S. can amend its trade remedy laws without Canada's consent. If a new trade law or amendment specifies Canada, then it will apply (FTA, article 1903). Moreover, section 102 of the U.S. implementing act states that the laws of the U.S. are to prevail in a conflict with the FTA.[403] As the DOC concluded in Lumber III, "nothing in the FTA precludes the Department from applying the U.S. countervailing duty law against a countervailable (Canadian) program."[404]

Article 1203 (b) of the FTA explicitly exempts "controls by Canada on the export of logs of all species" from the general prohibition of export restrictions and taxes in the agreement. Even this specific exemption, directly negotiated with the U.S., did not prevent the countervail of B.C.'s log export controls. In a brief footnote the DOC dismissed the clause, stating that "the Department's determination to countervail B.C.'s log export restrictions does not prohibit B.C. from continuing to implement and enforce these restrictions; the Department is merely imposing a countervailing duty to offset the countervailable benefit enjoyed by the B.C. softwood lumber producers."[405]

---

[402] Canada-U.S. FTA, Article 1902 and H.R. Doc. no 216, 100th Congress, 2nd session 208 (1988).

[403] H.R. Doc. no. 216, 100th congress, 2nd session 208 (1988), 43, 47. The most contentious issues were postponed. The FTA sets up a working party to negotiate a substitute system of rules for countervailing duties and subsidies. So far the U.S. has shown little interest in this process. The NAFTA replaces the FTA deadlines with a vaguer commitment to "consult further (NAFTA, article 1907)."

[404] Federal Register 57, p. 22610n.

[405] op.cit..

The Panel Review of the Softwood Lumber Countervailing Duty Determination

In a major test of the FTA dispute settlement process, the binational Panel reviewing DOC's final countervailing duty determination released its decision on May 6, 1993. The ruling takes issue with the process adopted by the DOC and refers key legal and technical issues back to the DOC for further consideration and clarification. At the same time, the Panel decision leaves intact the most disturbing element of the DOC's final determination, that is, the finding that export restraints, and indeed any government measure that allegedly generates a cost saving for a specific industry, may be countervailable subsidies. As a result, the reach of U.S. countervailing duty laws has been dramatically expanded, paving the way for future challenges to a wide range of government actions, including environmental and resource conservation programs.

On each of the central legal issues on Lumber III -- specificity, preferentiality, and log export restrictions -- the Chapter 19 panel remanded aspects of the decision to the DOC. On the first issue, specificity, the Panel concluded that DOC relied on a single criterion, the limited number of users, in deciding stumpage was specific. In doing so, the Panel observed, the Department ignored its own Proposed Regulations which set out three other criteria -- government action, dominant or disproportionate use, and government discretion -- as well as "other relevant record evidence.[406] The Panel remanded the decision for Commerce to evaluate and weigh all four factors, "as well as any other factors relevant to de facto specificity."[407]

In its remand on "preferentiality" the Panel directed the DOC to consider whether or not provincial stumpage programs were "market distorting," which the Department had declined to do in its initial decision. The Panel also noted that the DOC had not offered a convincing rebuttal to the economic arguments put by Canada nor had it supplied empirical evidence to support an alternative economic interpretation.[408]

---

[406] The Proposed Regulations referred to are outlined in U.S. DOC (1989) *Countervailing Duties; Notice of Proposed Rulemaking and Request for Public Comments*. FR, May 31. Washington, D.C.

[407] United States-Canada Free Trade Agreement Article 1904 Binational Panel Review. U.S.A.-92-1904-02. In the Matter of certain Softwood Lumber Products from Canada. Decision of the Panel (May 6, 1993). p. 44.

The remand on the final issue -- log export restrictions -- involved subsidiary issues, that is the specificity of and the "direct and discernible effect" of the log export restrictions. As noted in a strongly worded dissent, "It is possible that Commerce will reach precisely the same judgement as before regarding these two issues, albeit rephrased in the terms suggested by the Panel."[409] The Panel did not contest the DOC's ruling that export restrictions may confer a countervailable subsidy. Nor did the Panel challenge the DOC's extraordinary premise that "the fact that a government measure generates some cost savings for a specific industry makes this measure a countervailable subsidy."[410] By allowing the "cost savings" test employed by Commerce, the Panel accepts the DOC's greatly expanded definition of countervailable subsidy.

4. CONCLUSION

The Panel decision is merely the first stage in what will be a contentious, and possibly lengthy, interchange with DOC. Because of the prominence of the U.S. softwood lumber lobby, it is also sure to be politically charged. Although, again, a Chapter 19 panel has been assertive with the DOC, over time the structural weaknesses of the FTA -- i.e. its failure to prescribe common rules governing subsidies and countervailing duties -- are likely to come into play.

---

[408] United States-Canada Free Trade Agreement Article 1904 Binational Panel Review. U.S.A.-92-1904-02. In the Matter of certain Softwood Lumber Products from Canada. Decision of the Panel (May 6, 1993). p. 59.

[409] United States-Canada Free Trade Agreement Article 1904 Binational Panel Review. U.S.A.-92-1904-02. In the Matter of certain Softwood Lumber Products from Canada. Decision of the Panel (May 6, 1993). p. 152. It should be noted that under NAFTA's proposed dispute settlement procedures, authors of dissents will not be identified.

[410] United States-Canada Free Trade Agreement Article 1904 Binational Panel Review. U.S.A.-92-1904-02. In the Matter of certain Softwood Lumber Products from Canada. Decision of the Panel (May 6, 1993). p. 152.

It is one thing for Canadian governments to defend their exporters before U.S. administrative agencies under U.S. law. It quite another for Canadian governments to argue before a **binational** panel about Congressional intent and the proper interpretation of U.S. statutes, matters over which Canadians have no control. The proper focus of an international dispute settlement mechanism should be the application of **common** rules, negotiated between the parties concerned, to a particular dispute.

The limitations of FTA process are demonstrated by the Softwood Lumber panel's regrettable findings with respect to log export restraints. Panel rulings set the standards which will govern future bilateral trade relations. The Panel ruling that the DOC fairly applied U.S. trade law compromises Canadian opposition to the DOC's unilateral expansion of the definition of countervailable subsidy.

With the effort to develop common rules on subsidies now abandoned under NAFTA, pressure for tougher unilateral U.S. trade actions against allegedly unfair Canadian trade practices will mount. If in the short-term the DOC is restrained by the technical and legal expertise of the Panels, in the longer term, the structural shortcomings of the FTA will favour U.S. complainants -- particularly those with the political clout to persuade Congress to clarify its intentions with respect to alleged foreign subsidization.

Overall, Lumber III supports Ontario's 1988 assessment of the shortcomings of the FTA market access provisions.

> "As to the principal goal of secure U.S. market access, there appears to be little change from the status quo. Neither the present rules governing antidumping and subsidy/countervail investigations nor the administering bodies are affected in any way by the Agreement. The new binational dispute settlement panel ... does not possess any increased power or differing review mandate than the present system. ... Overall, the inability of the Agreement to secure meaningfully U.S. market access in effect maintains the vulnerability of Canadian exports to U.S. trade remedy laws and would not appear to reduce it in future."[411]

---

[411] Ontario. "The Question of Secure U.S. Market Access in the Canada-U.S. Free Trade Agreement." p. ii.

It remains unrealistic to expect that either the basic forces restructuring U.S. trade politics or the power disparities between the U.S and its dependent neighbours can be finessed through dispute-settlement mechanisms.

Chapter 8

Environmental Implications of the NAFTA: An Inter-Industry Analysis

by Atif Kubursi, Andrew Muller and James Williams

1. INTRODUCTION

1.1 Approach of the Study

This study uses established techniques of input-output analysis to analyze the potential economic and environmental impacts of trade agreements. We interpret environmental impact as consisting of both the change in emissions and the solid waste generated by industry and the consumption of natural resources by industry.

The environmental impact of a trade policy agreement depends both on any change in industry outputs and on any change in the environmental byproducts per unit of output that it may cause. Analyzing the economic and environmental impacts of the trade policy agreements thus requires prediction of changes in industry outputs. This is difficult because industry outputs are determined by the interaction of many factors related both to the industry's costs and the demand for its products. An industry may be affected by a trade agreement in several ways. Demand for its product may be increased (because foreign trade barriers are reduced) or reduced (because cheaper substitutes for its products are available). The cost of its inputs may be reduced if the costs of its domestic suppliers fall, if cheaper imported inputs are available, or if domestic wages fall. The net result for any industry cannot be determined simply by examining the change in tariffs facing it.

Numerical estimates of changes in industry output resulting from trade agreements may be obtained from large scale econometric or computable general equilibrium models, but such estimates rely heavily on uncertain parameters, especially on assumptions concerning elasticities of demand.

In this study we have not made numerical predictions about changes in output levels. Rather, we have focused on the direct and indirect effects of assumed changes in output on total employment and on discharges of residuals. We have done this by identifying the industries in which employment and discharges are most sensitive to output changes. Information on employment and output sensitivity has been derived from input-output data and other sources. Information on direct and indirect waste generation impacts was available from data developed by VHB Consulting and Research, Inc. This data has been analyzed with a view to identifying clearly the most environmentally sensitive industries.

This examination has been augmented by studying the effects of a number of possible scenarios for output changes. Each scenario was developed in consultation with the other members of the CELA team. For each scenario the implied change in residuals discharge has been tabulated.

2. Links between the Economy and the Environment

This section postulates linkages among trade agreements, environmental policy, industrial activity, residuals discharge, and resource use. Ultimately the environmental impact of trade agreements within a particular country depends upon the agreement's effect on the scale or level of economic activity, the composition of economic activity, technology and government regulation. Each of these factors is discussed in turn in the sections below, following a brief general introduction to environment-economy linkages.[412]

2.1 Flows of Goods, Services and Residuals

Before explicitly discussing trade agreements, it is useful to consider how the human economy interacts with the natural environment. In simplest terms, the economy is the social system which produces and distributes goods and services for human consumption.

Elementary economics texts depict the economy as a closed circuit in which households supply inputs (labour, capital and land) to firms in return for monetary payments. The firms use the inputs to produce goods and services and supply them to the households, again in return for payments. The monetary value of the goods and services annually produced and made available for consumption is called the national (or provincial) income. In principle, provincial income can be measured either by adding up all income payments that households receive from the firms or by adding up all expenditures that households make to purchase newly produced goods. Figure 2.1 depicts this circular flow of national income.

The economic welfare of households is supposed to depend on their annual consumption of goods and services. Consequently, in this simple model, provincial income per capita is a useful index of economic welfare. Notice, however, that the share of each household in national income is not reflected in the aggregate income measure. The distribution of income among households is largely determined by payments they receive for their labour services. Thus the economy simultaneously determines the quantity and composition of goods and services produced and their distribution among households.

This simple model does not adequately show how a local economy depends on other economies and

---

[412] While in principle the sort of analysis we are discussing can be done for each individual country which participates in a trade agreement, there may be additional dynamic international effects which are not included in our model. In particular, cross-border pollution transfers such as long-range air emissions are not addressed in our analysis.

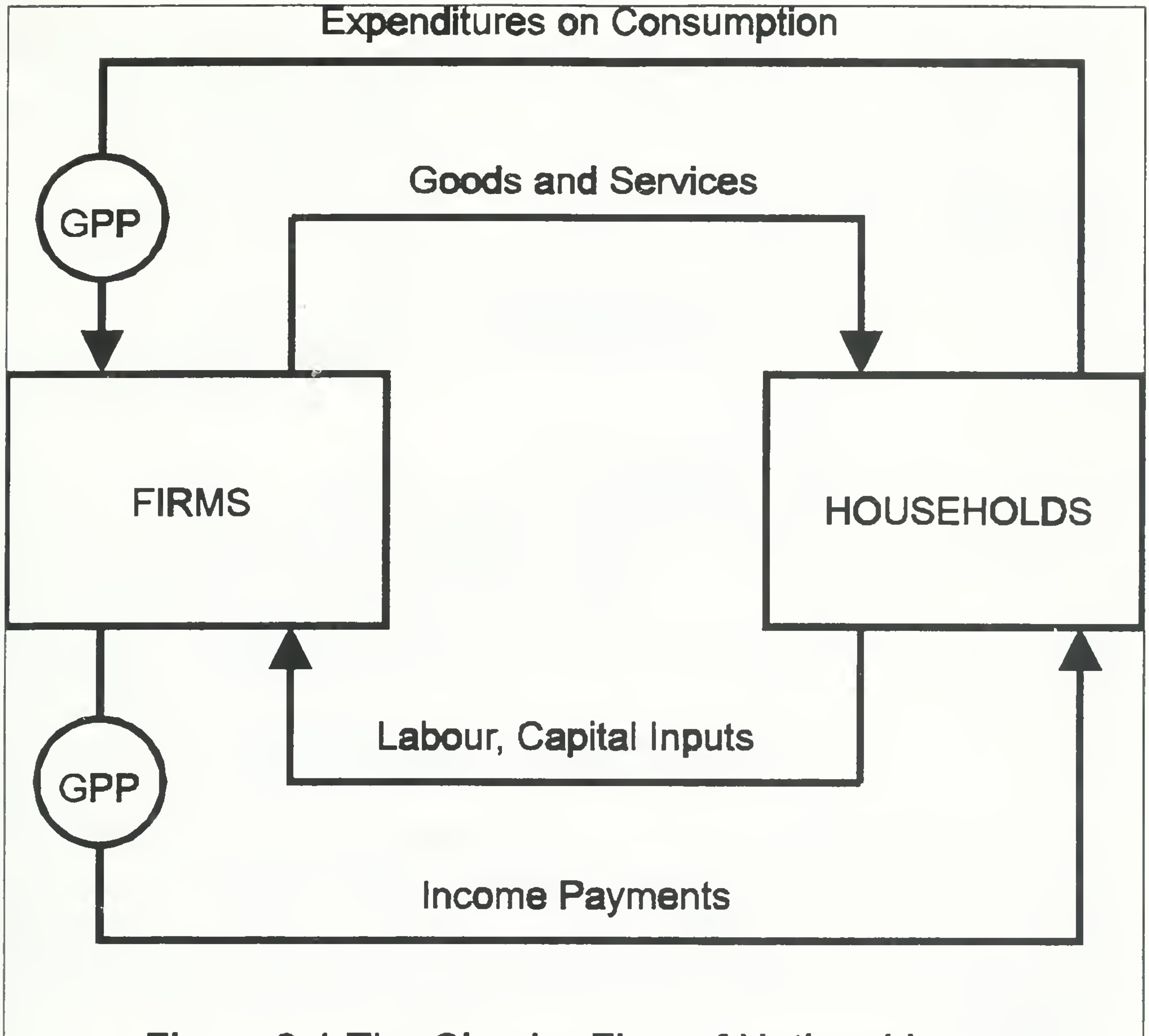


Figure 2.1 The Circular Flow of National Income

on the natural environment. Figure 2.2 extends the basic model to an open economy (such as Ontario) and shows how the economy is embedded in the natural environment. In this diagram, monetary flows have been suppressed in order to concentrate on the flow of goods and services.

Figure 2.2 shows that the economy is linked to the natural environment in three distinct ways. First, the natural environment supplies resources and energy inputs into the production process. Second, all production and consumption generates residual flows of waste energy and materials. If these are

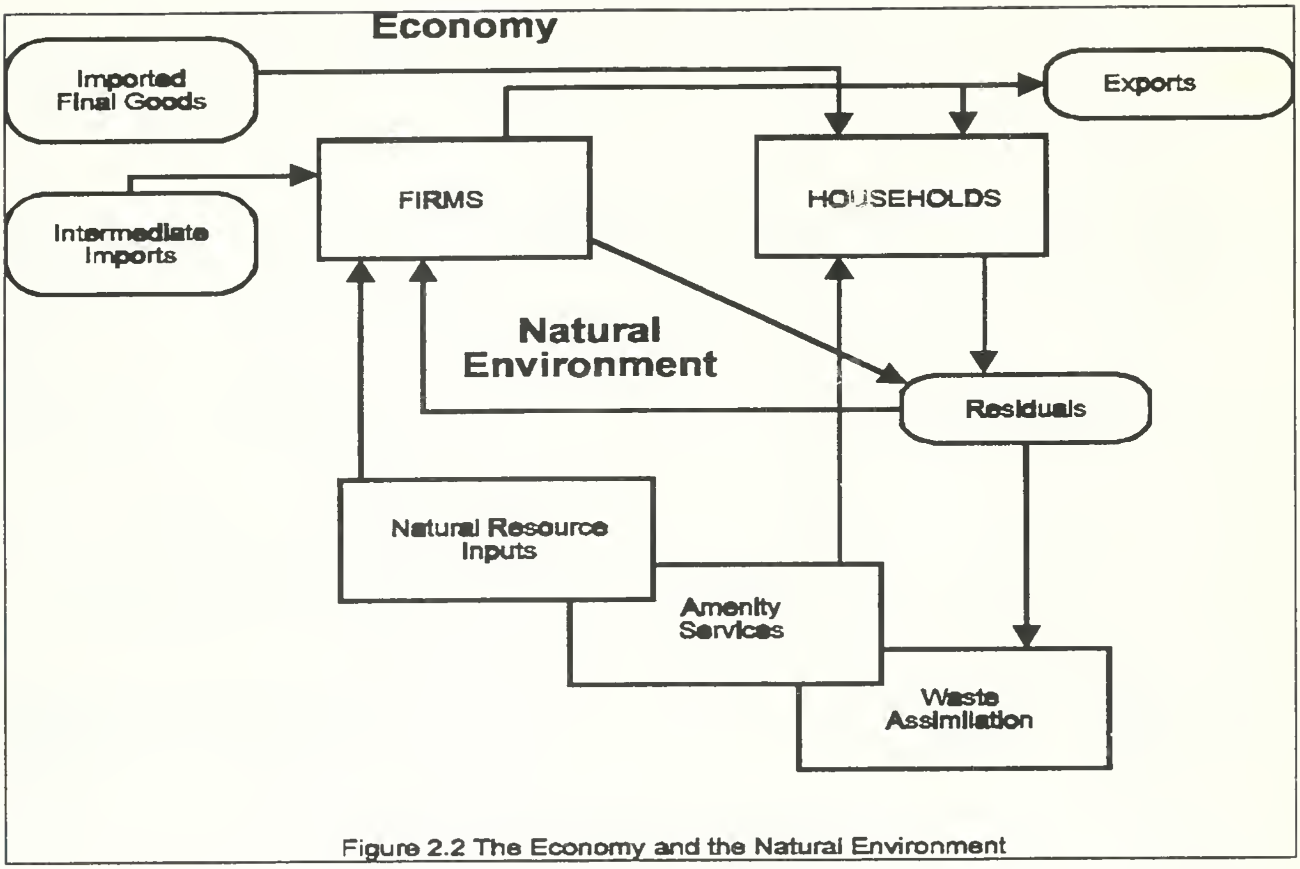


Figure 2.2 The Economy and the Natural Environment

not recycled, they must be assimilated by the natural environment. Third, the natural environment directly affects human health and welfare by providing amenities.[413] These direct links between the environment and human welfare are summarized by the arrows in Figure 2.2 linking Natural Resource Inputs to Firms, Amenity Services to Households, and Firms and Households to Waste Assimilation.

---

[413] Most obviously, human health depends on the purity of the air that households breathe and the water they consume. Changes in the environment, such as changes in water level can damage the economy's capital stock. Moreover, the natural environment provides direct enjoyment and spiritual satisfaction to households independently of the consumption of goods and services: sunshine and forests for walking, rain for gardening, snow for skiing. Some individuals derive satisfaction from the simple existence of wilderness, rare species and other environmental features. Finally, the natural environment is the repository of genetic information that may be of value to future generations.

Further links between the economy and the environment arise from the open nature of Ontario's economy. The consumption of imported final products and imported intermediate goods produce residuals which must be assimilated by the local environment. Exports of goods and services or wastes reduces the assimilation load placed on the local environment. Finally, the local environment may be affected by economic activities in other regions. For example, disposal of airborne sulphur and nitrogen oxides in the US mid-west affects the amenity services provided by the air in Ontario. Contamination of Great Lakes water from American sources affects natural resource use in Ontario. Residents of Ontario may derive satisfaction from the preservation of flora or fauna in other countries or regions.

In this study we focus mainly on the energy used and residuals generated by industrial production. We refer to these as the environmental impacts of industry. These impacts are influenced by many factors but especially by the scale of economic activity, the composition of final demand, and technology. In the remaining sections we summarize what may be said about the effects of trade agreements on each of these. Our discussion is based on the simple economic analysis found in undergraduate textbook treatments.

2.2 The Scale of Economic Activity

It is obvious that an increase in economic activity will tend to increase the environmental impact of industry unless the intensity of natural resource use[414] or the composition of national product[415] change. The level of economic activity in Ontario is usually measured by the provincial gross domestic product[416] (GDP). This section reviews how free trade agreements might affect the level and composition of provincial GDP.

---

[414] Units of natural resources used per unit of output of a particular industry.

[415] Distribution of output between more and less pollution-intensive firms.

[416] Gross Domestic Product includes incomes earned by non-residents. Gross National (or Provincial) Product excludes such incomes.

Conventional economic analysis makes a sharp distinction between the long run and short run effects of free trade agreements. The long run effects are those remaining after the economy has fully adjusted to the new trade regime. The short run effects are those experienced during the period of adjustment.

2.2.1 Long Run Effects

Most analysis of the long run effect of trade agreements is conducted in the context of the so-called real theory of international trade[417]. A key assumption of this analysis is that the economy contains adjustment mechanisms which will lead to full employment in the long run. The question to be answered, then, is how would a fully employed economy under a trade agreement differ from a fully employed economy without the trade agreement?

The real theory of international trade makes predictions about the effect of trade liberalization. The conclusions derived from the theory depend (among other things) on the change in the terms of trade[418]. The terms of trade are defined as the amount of imports the nation receives in exchange for one unit of its exports. They may be measured as the ratio of an index of the price of exports to an index of the price of imports. We may state four predictions which are derived from the Real Theory of International Trade:

---

[417] See, for example, CHACHOLIADES, M. (1978) *International Trade Theory and Policy*, McGraw-Hill Book Company.

[418] The standard model of the real theory incorporates the following assumptions in addition to full employment:

> Both the goods and factors markets are characterized by perfect competition. Factors of production are identical everywhere in the world. They are fixed in supply, fully employed and, although perfectly mobile among industries, are immobility among nations. The same technology assumed to be available everywhere in the world, and the various means of production, can be represented by production functions which are linear homogeneous, meeting certain consistency restrictions. There are no reversals of factor intensity ratios (if industry A is more labour intensive than industry B it will be so for all factor prices). The utility of consumers can be represented with a mathematical function that is homothetic and which satisfies certain consistency requirements expected from rational decision makers. (Homotheticity implies that the share of each commodity in a consumer's total expenditure depends only on prices and not on income.)

- Trade liberalization will increase the production and exports of commodities in which the economy has a comparative advantage, and increase imports and reduce production of those goods in which the economy has a comparative disadvantage.
- If the terms of trade do not change, the value of production and domestic welfare will increase.
- If the demand for imports in the home nation is sufficiently inelastic, the terms of trade may turn against it. That is, the price of the economy's exports may fall relative to the price of its imports. In this case it is possible, though not necessary, that freer trade will reduce the value of production (measured at foreign prices) and the level of domestic welfare.
- The price of those inputs used intensively in the export industries will rise relative to the price of inputs used less intensely.

It is the first of these predictions that has the greatest importance for the environment. If Ontario's exporting industries are more pollution-intensive than its import competing industries, agreements which lead to increased trade will worsen the overall impact of industry on the environment. Conversely, if Ontario's exports are less pollution intensive than import competing domestic production, the environment of the province would benefit from increased trade.

2.2.2 Short Run Effects

The real theory of international trade predicts that trade agreements will lead to a restructuring of production in the economy, but it does not describe the process by which the economy will adjust. Analysis of the mechanisms governing this adjustment is much more complex and open to debate than is the analysis of long run effects. The fiscal and monetary policy followed by governments during the transition period will have an important effect on the adjustment path. Suppose, for example, that full adjustment to free trade requires lower real wages for unskilled labour. If the federal government pursues tight monetary policies aimed at reducing inflation, the exchange rate will tend to be high, and adjustments must occur primarily through falling nominal wage rates. If the federal government pursues looser monetary policies, exchange rates may be lower, inflation will accelerate, and less of the adjustment will come from falling nominal wages.

For these reasons, among others, the short run effects of free trade agreements overall are very difficult to predict. In this study we have chosen not to make any short run predictions, but rather to explore the environmental implications of alternative scenarios.

2.3 Analyzing the Composition of Economic Activity

We have seen that trade agreements can affect the natural environment by changing the mix of commodities produced in the economy. If free trade leads to an increase in the production of commodities that require large inputs of raw materials and energy, environmental impacts will be increased. This section discusses how the composition of industrial output is determined and considers how it might be affected by free trade agreements. It also introduces terms that will be important in later sections.

2.3.1 Definition of Commodities and Industries

It is useful to distinguish between the terms **commodity** and **industry**. A commodity is an item which may be bought and sold, such as newsprint or plastic bags. For statistical purposes, commodities are classified by the Standard Commodity Classification (SCC). An industry is a group of industrial establishments which produce similar products. Establishments may produce commodities falling under more than one commodity classification. Establishments are classified to the industry associated with their chief products. For example, an establishment producing both shoes and sporting goods would be classified to the shoe industry if its sales of shoes exceeded its sales of sporting goods. Many statistics, such as employment, output, and productivity data, are gathered on an industry basis.

2.3.2 The Distribution of Final Demand across Commodities

Final demand may be divided into Consumption, Capital Formation (often called **Investment**), Government Expenditure on Goods and Services, and Net Exports. Each of these may be subdivided by commodity classification. As a result, any level of gross provincial product (say $100 billion) can be disaggregated into a commodity demand along the lines of Table 2.1.

The distribution of final demand across commodities depends on the tastes of consumers and relative prices. Free trade can influence the distribution of final demand by altering the composition of net exports and by altering the relative prices of commodities used for consumption and investment. If the commodities which expand under freer trade are pollution intensive (i.e. they use relatively more natural resources and generate relatively more residuals), the effect of free trade will be to increase the environmental impact of industry.

Table 2.1
A Simplified Final Demand Matrix

Commodity	Consumption	Investment	Government	Net Exports	Total
Paper	21	7	5.25	1.75	35
Computers	15	5	3.75	1.25	25
Banking	24	8	6	2	40
Total	60	20	15	5	100

2.4 Technology

2.4.1 Input-output Coefficients

The environmental impact of production in any particular industry depends upon the gross output of the industry and on the production technology employed by the industry. It is convenient to describe technology in a matrix such as Table 2.2. Table 2.2 lists all the inputs used in a fictitious industry, the widget industry. These inputs may be divided into intermediate inputs produced by other firms, primary inputs provided by the owners of labour and capital, and environmental inputs. Intermediate and primary inputs can be expressed as dollar amounts. The environmental inputs are in physical units.

Column 1 may be called the use vector for the widget industry. It shows that the total value of shipments to and from the industry was $4,000 thousand. It used $3,720 thousand dollars of intermediate goods and $280 thousand of primary inputs. These sum to the value of shipments since the "profit" item (often called "surplus") is defined as the difference between the total value of shipments and the value of all other inputs.

Column 1 also shows the environmental inputs used by the widget industry. In this case the widget industry used 180 GJ of energy and emitted 20 kg of sulphur dioxide.

Column 2 may be called the technology vector for the widget industry. It is calculated by dividing column 1 by the total value of shipments to obtain a column of coefficients. The coefficients may be interpreted as the amount of each commodity, primary input or environmental input required per dollar of gross output of the widget industry. In this case, the table indicates that one dollar of output in the widget industry requires $0.14

of oil, $0.625 of paper and $0.065 of banking services. It also requires $0.0625 of labour inputs (which earn wages) and $0.0075 of capital inputs (which earn profits). Finally, gross output of $1 in the widget industry requires 0.0450 MJ of energy and leads to discharges of 0.05 g of SO_x.

On the assumption that the technology vector remains unchanged as the scale of output increases,

Table 2.2
Use Vector and Technology Vector for
Simplified Industry - the Widget Industry

Commodity	Use Vector (k$)	Technology Vector
Intermediate Inputs		
Oil	560	0.1400
Paper	2500	0.6250
Steel	400	0.1000
Banking Services	260	0.0650
Total Intermediate	3720	
Primary Inputs		0.0000
Wages	250	0.0625
Profits	30	0.0075
Total Primary	280	
Total Market Inputs	4000	1.0000
Environmental Inputs		
SOx (kg)	20	0.0050
Energy(GJ)	180	0.0450
Value of Shipments	4000	1.0000

we now have an easy way to calculate the intermediate and primary inputs required for and the environmental impacts of any level of production in the widget industry. For example, if the level of production is $5,000,000 we simply multiply each coefficient in the technology vector by 5 million to obtain the corresponding inputs.

2.4.2 Determination of Technological Coefficients

The technological coefficients for any industry are determined largely by the production decisions of the firms in that industry. Normally we expect firms to choose the production process which achieves their desired output level at minimum cost. When the prices of inputs change, it is usually profitable to substitute the relatively cheaper input for those which are relatively more expensive. For example, if the price of oil rises, one would expect firms to economize on the use of oil. This would reduce the technology coefficient for oil in each industry. The ability to substitute one input for another is determined by the underlying physics of production, the current state of technology, and any institutional constraints on the firm's ability to substitute one input for another.

The environmental coefficients in the technology vector are particularly sensitive to pollution control investments in the industry. For example, firms in the widget industry might install advanced scrubbing equipment to reduce sulphur dioxide emissions. This would probably lead to lower sulphur dioxide coefficients but higher coefficients on profits (since the owners of the pollution control equipment must receive a return on their investment and on energy (since more energy will be used to operate the equipment). This suggests that environmental policies pursued by governments will be important determinants of the technological coefficients.

2.4.3 Free Trade Agreements and Technology

Free trade agreements can influence technological coefficients in two main ways: through changes in prices, and through changes in the regulatory environment. Free trade agreements will normally change the price of some inputs relative to others. For example, if unskilled labour is a scarce input in Ontario, a free trade agreement with a lower-wage country should lead to reduced wages for this category of labour, relative to returns to other factor prices, especially capital. This may lead firms to choose somewhat less capital intensive methods of production. Free trade agreements may also change the regulatory environment in which firms operate. For example, a free trade agreement may prohibit individual provinces from constraining imports of commodities produced under less strict environmental regulations elsewhere. This might lead to political pressure to relax environmental standards in Ontario, and consequently, to a change in the environmental coefficients in the technology vectors.

2.5 Government Regulation

Governments influence the links between the environment and the economy in several ways in addition to their direct regulatory effect on technology coefficients. Some of these can be related to Figure 2.2. Imports of final products and intermediate imports are affected by tariffs, quotas, and various regulations including environmental and product-related standards. Governments may also influence the exports of final products and residuals. The division of household residuals into recycling and waste disposal streams is influenced by government regulation and price incentives. The use of local, imported and recycled inputs may also be affected by government regulation and price incentives. The generation of residuals by firms is affected by environmental regulations and price incentives. Finally, the location of firms will influence the generation of residuals. For example, a loss of manufacturing firms to Mexico might reduce the rate at which residuals were generated in the Ontario economy.

Trade liberalization can affect the environment by affecting the nature and extent of government regulations. For example, trade agreements may constrain the policy instruments available to the federal and provincial governments to those which cannot be interpreted as disguised protectionism. This type of limitation is examined in other chapters of this study. Quantitative analysis of these effects, however, is beyond the scope of this chapter.

2.6 Summary: The Environmental Effect of Trade Agreements

Free trade agreements change the rules under which business firms and consumers operate, leading to changes in prices. This in turn changes the behaviour of firms and consumers and the impact of their activities on the environment. The final effect may usefully be broken down into a number of components.

First, trade agreements affect the overall level of aggregate demand. They should lead to an increase in the productivity of the economy's resources and an increase in gross provincial product unless these gains are off-set by terms of trade or adjustment effects. This increased production will increase the environmental impact of industry unless all the growth is in low-polluting industries which replace more pollution-intensive production. The short run impact on aggregate demand cannot be predicted a priori; we can only make a few preliminary conjectures. In the case of the FTA/NAFTA, the availability of the U.S. market to Canadian producers may attract new capital investment and increase aggregate demand. However, adjustment to these opportunities probably requires a reduction in the wages of unskilled labour relative to factor returns since unskilled labour appears to be relatively more abundant in Mexico (and possibly in the U.S.) than in Canada. If wages do not fall sufficiently quickly, or if changes in the exchange rate offset reductions in labour costs, or if business investment does not respond quickly to reduced labour costs in Canada, there will be a strong incentive for firms to increase imports of intermediate products and to close production facilities in Canada. This would lead to a reduction in aggregate demand and a reduction in the environmental impact of industry.

Second, free trade agreements will lead to a change in the composition of final demand as consumers substitute items which are less expensive for those which are more expensive and net exports rise in some industries and fall in others. This will increase environmental impacts if the shift is towards environmentally intensive industries.

Third, free trade agreements may affect the regulatory regime under which firms operate. If free trade causes political pressures to reduce the level of environmental regulation, the environmental intensity of production in certain industries may rise.

3. Modelling the Effects of Trade Agreements

This section briefly reviews alternative methods of modelling the economic impact of trade agreements on the economy and then discusses the method selected for this study.

3.1 The Basic Links

The basic linkage between the trade agreements, the economy and the natural environment can be shown schematically in Figure 3.1.

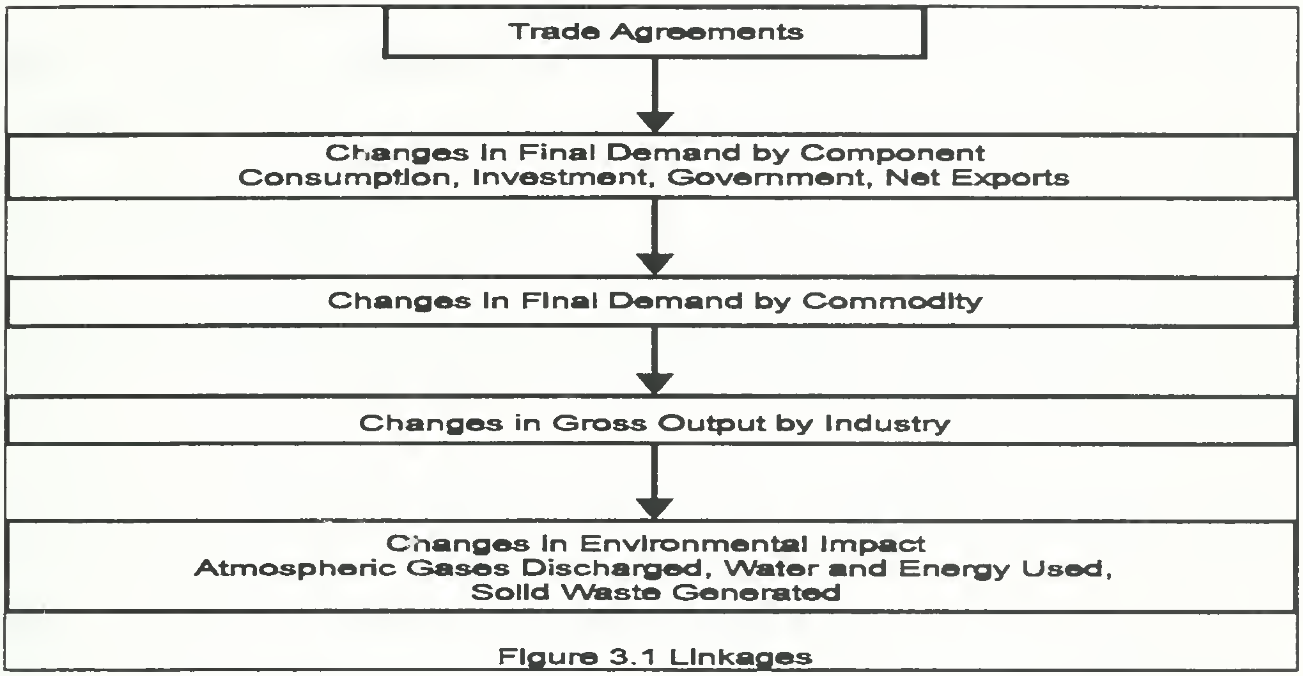

Trade Agreements
Changes in Final Demand by Component
Consumption, Investment, Government, Net Exports
Changes in Final Demand by Commodity
Changes in Gross Output by Industry
Changes in Environmental Impact
Atmospheric Gases Discharged, Water and Energy Used,
Solid Waste Generated

Figure 3.1 Linkages

We need a method of modelling quantitatively each stage of this scheme. Three methods are available: input-output analysis, econometric modelling, and computable general equilibrium analysis. The last two incorporate the first as one of their components.

3.1.1 Input-Output Analysis

In its simplest form, input-output analysis takes a set of predicted changes in Final Demand by Component and translates them into a set of Changes in Environmental Impacts by assuming fixed coefficients at every stage of the process. These coefficients are the share of each commodity in the total value of final demand, each industry's share of the total output of each commodity, and the share of each commodity in the total costs of each industry.

An input-output analysis of trade agreements begins with an assumed **scenario** concerning the effect of the trade agreement on the level and composition of final demand by commodity or on gross output by industry. The environmental impact of the scenario is then computed using a model based on the fixed coefficients.

The advantages of this method are its computational ease and conceptual clarity. The chief disadvantage is that no effort is made within the model to incorporate the changes that the trade agreement might impose on the fixed coefficients in the model. It may also be reckoned as a disadvantage that no effort is made to predict econometrically the effect of free trade on the main components of final demand, namely consumption, investment, government expenditure and net exports. However, as noted in the section below, the econometric approach has certain limitations of its own. In this project, scenarios based upon judgement serve as substitutes for econometric prediction of final demand.

3.1.2 Econometric Techniques

An econometric analysis attempts to predict the effect of trade agreements on the main components of final demand by commodity and then uses input-output or general equilibrium analysis to predict the change in environmental impacts. Changes in final demand are predicted on the basis of past behaviour as summarized in regression equations. For example, a regression equation might be used to predict exports of a particular commodity as a function of foreign GDP and domestic prices. Removing tariffs would change domestic prices and consequently change the level of exports.

An econometric analysis of a trade agreement requires specification of how trade parameters enter the equations of the model. For example, the effect of tariff and non-tariff barriers must be translated into equivalent changes in the domestic price of each commodity. The export equations will then predict changes in commodity exports. An econometric analysis must also postulate the effect of trade agreements on investment (i.e. fixed capital formation). Since there is no historical precedent for a free trade agreement, economic theory must be used to specify the relationship.

The main advantages of econometric models are their ability to incorporate the effects of past experience and the effects of federal monetary and fiscal policies. They can also predict the time path of adjustment to a trade agreement. A major disadvantage is their inability to predict the effect of changes outside of historical experience. Future monetary and fiscal policy, for example, are inherently unpredictable. In addition, the theoretical and empirical specification of the model may impose behaviour on it that is not at first obvious. For example, an econometric model might build in the assumption that there will be full employment in the long run. It is important to understand the basic assumptions of any econometric model.

3.1.3 Computable General Equilibrium

In principle, the prices, production, consumption and net exports of all commodities and all primary inputs in all countries affected by a trade agreement are simultaneously determined - everything depends on everything else. It is possible to specify a set of equations which characterize this equilibrium. Given data and computational facilities, one can solve this set of equations to obtain the prices, quantities and net exports of all commodities as well as other data. This approach has been increasingly applied in the international trade literature.

Computable General Equilibrium models are very demanding in terms of the information they require from statistical agencies of government. Unfortunately, there are inherent limitations on the government agents which provide such information. Information relating to individual firms is collected but cannot be released unless it is combined with data from other similar firms to form industry data. Data organized by industry must be consistent in the accounting sense. In smaller jurisdictions, the definitions of industries must be quite broad in order to include enough firms to protect the identity of individuals. Definitions of industries for Ontario have to be broader than the definitions that can be applied in the case of Canada as a whole. Though firm level data would be preferred, in the end we are forced to use industry data, and the number of industries that may be considered in any one model is less than users would wish.

While it is possible, at a level of aggregation, to obtain consistent data for one nation, the problems become much greater when several nations are involved. Statistical definitions of commodities differ by nation and each nation combines these into industries using concordances that differ one from another. Usually, definitions of import and export classifications will not concord very well with either the commodity or industry classes, and none of these will necessarily concord with the tariff definitions in various nations. As noted in the last section, the Real Theory can explain the total imports and exports of each nation but cannot explain the distribution of trade by nation, so we must acknowledge that there are both theoretical and practical limitations when we attempt to determine the direction of trade in commodities from Canada to the other nations of the world.

However, even to determine the total exports and imports of one nation in the model of the Real Theory, it is necessary to first determine the production and consumption in every other nation because, as noted above, trade is treated as a residual. Clearly this is an impossible task which must be simplified. In the Computable General Equilibrium model, trade with the rest of the world is summarized in numbers representing the responses of the rest of the world to price changes in the home nation. These response values are called export or import elasticities. They represent the percentage by which export or import quantities are assumed to change when there is a change in the home nation (Canadian) price. Alternatively, it is occasionally assumed instead that the nation whose behaviour is being considered is too small to affect world prices, which are then taken as constants.

Demand elasticity is a characteristic of a well-defined product. The meaning of elasticity for an aggregation of heterogenous products of an industry is not clear, and attempts to estimate it have not met minimal statistical standards. An even greater difficulty arises with respect to other parameters that must be estimated in the Applied General Equilibrium model. It is nearly impossible to obtain consistent data for more than one year and, consequently, econometric methods necessary to establish the statistical significance of estimates cannot be applied.

3.2 This Study's Model

For this study, we have chosen to use input-output techniques rather than to attempt a full econometric or computable general equilibrium model. This decision was partly motivated by resource constraints: a complete analysis would have taken much more time and funding than were available. More importantly, however, we believe that the structural changes implied by free trade agreements greatly reduce the utility of econometric estimates based on historical data and that the strong assumptions concerning the structure and parameters of computable general equilibrium models render their precision more apparent than real. Our study has the limited goal of translating predicted changes in provincial output into the implied change in residual discharges and natural resource usage.

The Technical Appendix to this chapter formally describes the input-out model which we have used to analyse the environmental impact of trade agreements. For precision, we have used mathematical notation that may be unfamiliar to some readers and therefore we have relegated the material in the Technical Appendix, Section A.

A substantial amount of data was required to implement the approach. Fortunately, most of the data collection had already been done by Econometric Research Limited for another study. A full description of the data appears in the Technical Appendix, Section B. Details of the trade scenarios used in our analysis appear in the Technical Appendix as Section C. Finally, a restatement of the LINK model, on which our analysis is based, appears in the Technical Appendix as Section D.

4. Trade Scenarios

4.1 Introduction

A model such as ours can be used to explore the impact of free trade agreements on Ontario's environment by examining a number of hypothetical developments which are best described as scenarios to distinguish them from predictions. A scenario is not a prediction but, rather, it is an hypothesis or assumption, the consequences of which will be explored during the analysis. Scenarios can be devised to model any assumptions about future demand for the output of the Ontario economy. The input-output model can then be used to calculate the environmental impacts of any scenario. This approach has the advantage of yielding estimates of environmental impacts which are consistent with any scenario, but leaving the specification of the scenarios to the judgement of policy makers.

To illustrate this approach we have formulated a number of scenarios to explore. We divide our scenarios into three groups: Alternative Growth Scenarios, a Computable General Equilibrium Scenario and Trade Action Scenarios. Under each scenario, we compare the projected outcome to the 1990 base line for atmospheric gases discharged, the solid waste generated, and the water and the energy used. The following sections briefly describe each of these scenarios. Fuller details are provided in the appendix section B.

4.2 Alternative Growth Scenarios

These scenarios attempt to show how a North American Free Trade agreement might affect the performance of the Ontario economy over the next 3 years. Three scenarios are considered in this regard: Zero Growth, Treasury Growth Forecast Growth, and a NAFTA scenario.

The Zero Growth scenario assumes that there will be no overall growth or decline in provincial GDP over the period 1991 to 1994, but that individual industries will grow or contract relative to each other in the pattern observed for 1989-91. The actual figures are shown in the appendix section C. Since economic growth was generally negative from 1989 to 1991, the assumption of zero growth for 1991 to 1994 implies that industries with small declines in actual growth between 1989 and 1991 may have positive growth in the subsequent period. Since this scenario represents the direction in which the economy was moving immediately after the US Canada Free Trade Agreement, it provides a point of reference for evaluating other scenarios.

The Treasury Growth Forecast scenario is based on forecast rates of growth for Government

Expenditures, Investment and Exports published by the Ontario Treasury (Ontario, 1992 Budget, p 58). These estimates, details of which are in the appendix section C, are treated as givens and the implied levels of output by industry are then computed using the LINK model described in the appendix section D. Note, however, that in these scenarios consumption and imports are calculated within the model and the totals of these for all industries are those computed using the LINK model, not the totals specified by Treasury. The output levels obtained from the LINK model for 1991 and 1994 were used to compute the annual average compound growth rates by industry shown in the appendix section D.

This Treasury Scenario reflects expected changes in the Ontario economy on the assumption that the US Canada Free Trade Agreement remains in force, but that the NAFTA is not implemented. This provides another point of comparison -- one which is somewhat more optimistic than the "zero growth" scenario and which accords with current government economic forecasts.

The NAFTA scenario adjusts the Treasury forecasts for 1991-94 to reflect changes which would be expected if NAFTA were to be fully implemented by 1994. The changes in industry output associated with this scenario are shown in the appendix section D. This scenario was developed from information provided by trade analyst Bruce Campbell of the Canadian Centre for Policy Alternatives, who describes the rationale for his work as follows:

> Adjustments to the Treasury forecast were based on a number of observations and assumptions. Competitive advantage in an integrating economic system where goods (and increasingly services) and capital are mobile will tend to reinforce already strong sectors and weaken already vulnerable sectors. For Canada, one result of this structural change will be a relative increase in resource-based production and export. This means an increase in resource extraction and partial processing. The tendency to a deterioration in the terms of trade for resources will further intensify resource export volumes. Aggravation of structural weaknesses in the current account balance will also put additional pressure to accelerate production and export of resource based products. The increase in trade from the integration of the North American market will mean an increase in transportation activities and hence an increase in energy use. The increase in energy use will also result from the increase in energy intensive production given Canada's advantage in this area.
>
> Adjustments to the Treasury forecast were also based on evidence of changes in output and employment during 1988-91, Statistics Canada surveys of actual and planned capital expenditures of major firms, and private surveys of expectations and

investment intentions of senior corporate executives under NAFTA.

Comparison of the sectoral emissions and water energy consumption results generated by our I-O model under each of these three scenarios is intended to show NAFTA's predicted total impact on pollution and energy use in the short term in Ontario, as compared with two (slightly differing) non-NAFTA estimates.

4.3 A Computable General Equilibrium Scenario

To connect our results to the literature on computable general equilibrium and international free trade agreements, we have also specified a scenario based on results of the study by Roland-Holst, Reinert and Shiells (RSS)[419]. This study was selected not for the realism of its assumptions, but because it was the only available study which included all three parties to the NAFTA and which provided a quantitative industrial breakdown of results, a requirement for using the LINK model. Another advantage of the study is that it provides estimates of discrepancies in the relative prices of commodities in the three countries. These estimates can be used to estimate the financial impact of free trade under this scenario. Computational details of the scenario are presented in the appendix section C.

The results generated from our I-O model using this scenario show the pollution and water energy used which would be expected in Ontario if the RRS study is correct about NAFTA's long term impact on total demand.

The results obtained from this scenario must be interpreted carefully while bearing in mind the key features of the Roland-Holst, Reinert and Shiells model:

---

[419] Roland-Holst, David; Reinert, K.A.; Shiells, C.R. (1992) "North American Trade Liberalization and the Role of Non-Tariff Barriers". Paper No. 10 in Economy-Wide Modelling of the Economic Implications of a FTA with Mexico and a NAFTA with Canada and Mexico. United States International Trade Commission, Publication 2508.

- The model is calibrated to 1988 social accounting data for the three countries.
- The effect of tariff distortions is measured by 1988 observed tariff collections.
- Each country is assumed to have a fixed stock of capital;
- Each country has an unlimited supply of labour at a fixed wage rate;
- There are unexploited economies of scale in domestic production;
- Free trade will eliminate price discrepancies due to tariff and non-tariff barriers.

Many of these assumptions are debatable. Consequently the results should not be accepted as definitive.

4.4 Trade Action Scenarios

In addition to the above scenarios, we also consider the effect of trade harassment on Ontario industries. One argument advanced for entering the Canada US FTA was to secure access to the US market for Canadian firms which might otherwise suffer harassment under US trade law. Opinions differ on how effective this security of access has been. Nevertheless, we think it useful to assess the environmental characteristics of industries at high, medium, low and unclassified risk of trade action. This analysis is based on a ranking prepared by Scott Sinclair, in the course of preparing Chapter 7 of this study. The details of Sinclair's ranking appear in the Section C of the Technical Appendix. We mapped his ranking into the 40 commodity classifications used in the Ontario input output table and then used our input-output model to compute the environmental impacts. We use these rankings to assess the environmental consequence of a one billion dollar change in the output of industries in alternative risk categories.

4.5 Use of the Scenarios

The scenarios described above can be used to shed light on the following questions:

- **What changes in the environmental impact of economic activity are possible over the next 3 years?**

To answer this question, we will compare the environmental impacts of the zero growth, Treasury and NAFTA scenarios to environmental impacts in the base year of 1990. The answers will be stated as annual percentage increases in SOx, NOx and VOC emissions, water intake, discharge and consumption, energy use and waste generation.

- **How might a NAFTA affect Ontario's environment in the short run?**

To answer this question, we will compare the NAFTA scenario to the Treasury scenario. The answers will be stated as **changes** in the annual rate of growth of SO_x, NO_x and VOC emissions, water intake, discharge and consumption, energy use and waste generation.

- **How might a NAFTA affect Ontario's environment in the long run?**

It is virtually impossible to predict accurately the state of the Ontario's economy and the environmental impact of Ontario industry in (say) twenty years time. Both will be affected by the numerous factors including exchange rates, international flows of labour and capital, and new technological and political developments both at home and abroad. Consequently it would be foolhardy to try to compare the predicted states of the Ontario economy in twenty years' time with and without any particular development such as a NAFTA.

To analyse the long run impact of a NAFTA we must turn to *counterfactual* analysis. We will compare the historical base year of 1990 with an estimate of what 1990 *would have been like* had the proposed NAFTA been fully operational for a long time *before* 1990 and had the Ontario economy been fully adjusted to it. If the historical base year corresponds to a *complete* adjustment to the Canada US FTA, the difference can be attributed to the incremental effect of the NAFTA. This kind of analysis can never give a prediction of the actual state of the Ontario economy at any time in the future. It can only identify the directions in which the change being analysed (here, a movement from Canada US FTA to NAFTA) is pushing the economy.

Computable CGE models are *designed* for counterfactual analysis of this kind. We will use the output scenario generated by the RRS model to generate a counterfactual prediction of what residual discharges and energy consumption *would have been* in 1990 if, in that year, Ontario had fully adjusted to a NAFTA implemented sometime previously. The long run impact of a NAFTA under this scenario is given by the percentage changes in total emissions of SOx, NOx and VOCs, intake, discharge and consumption of water, energy use and solid waste generation from the 1990 baseline.

- **How might trade harassment under a free trade agreement affect Ontario's environment?**

This question again requires counterfactual analysis. Trade harassment may have two effects. First it may discourage investment in industries which are at high risk of trade harassment, since the return to investment in those industries depends heavily on their ability to export. Secondly, if the investment is displaced to other Canadian industries rather than simply disappearing, trade harassment may serve to increase investment in industries which are at low risk of trade action. If the high and low risk industries differ in pollution intensity, trade harassment can change the overall environmental impact of industry.

To address this issue we shall examine the trade action scenarios specified above. First we shall investigate the environmental impact of a $1 billion change in the final demand for high, medium, low and other risk commodities. The answers will be stated as changes in the physical quantities in the 8 categories of impact considered earlier. Then we will investigate the net effect of offsetting a $1 billion decline in demand for high, medium, and low risk commodities with an equivalent increase in the demand for unrated commodities.

5. Empirical Results

This section presents the results of applying the modelling method described in section 3.2 to the scenarios described in section 4.

5.1 Alternative Growth Scenarios

Figure 5.1 shows the annual rate of growth in each of eight environmental impact measures for each of the three alternative growth scenarios. The numeric data are given in Table 5.1. Figure 5.1 shows that the NAFTA scenario leads to somewhat higher rates of growth in energy use and atmospheric emissions. This reflects a shift towards more resource and energy intensive industries under the NAFTA scenario.

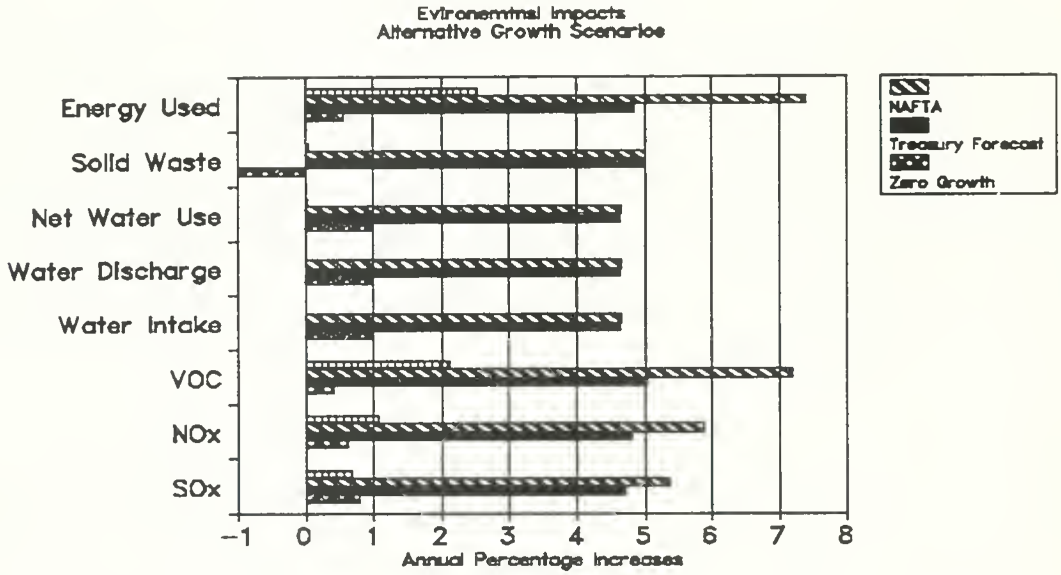


Figure 5.1

Under the zero provincial growth scenario, the only changes in emissions come from the trend in relative performance by sector observed over the past two years. If these shifts in the composition of provincial output were to continue, there would be a small annual increase in the generation of atmospheric emissions, water intake and energy use. Waste generation would decline slightly (by about 1 percentage point per annum). This decline would be entirely due to a fall in the output of the construction industry in line with the historical experience of 1989-91. There would be a slight annual decline in the generation of solid waste (about 1% per annum)

Under Treasury's forecast, gross provincial output expands by over 4.93 percent per year from 1991 to 1994. Atmospheric emissions grow at approximately the same rate (slightly higher for VOC and slightly lower for SOx and NOx). Water use grows a little less rapidly (at about 4.65% per annum), while energy use and solid waste generation expand at about the provincial average rate of growth.

Table 5.1
Percentage Changes in Emissions and Resource Use: Alternative Growth Scenarios

Item	Base	Unit	Zero Growth	Treasury Forecast	NAFTA	NAFTA less Treasury
SOx	547,158	(a)	0.79	4.71	5.38	0.67
NOx	199,960	(a)	0.62	4.81	5.88	1.07
VOC	16,349	(a)	0.40	5.05	7.18	2.14
Water Intake	1,594,640	(b)	0.99	4.64	4.65	0.01
Water Discharge	1,578,673	(b)	0.99	4.64	4.65	0.01
Net Water Use	15,967	(b)	0.98	4.65	4.66	0.02
Solid Waste	15,532	(a)	-0.96	4.97	5.00	0.03
Energy Used	3,519,821	(c)	0.56	4.86	7.39	2.54

(a) Tonnes per year
(b) Million cubic metres per year
(c) Exajoules per year

The NAFTA scenario is somewhat different. Atmospheric emissions rise substantially more rapidly than under the Treasury forecast, due to the scenario's higher output of primary metals and refined petroleum products. Water intake and waste generation are approximately the same under the two scenarios. Energy consumption grows much more rapidly (at 7.4% per year instead of 4.9%). Once again this is associated with the assumed high rates of growth for primary metals and refined petroleum.

Thus our analysis suggests that a NAFTA would result in *more* atmospheric emissions (of NO_x, SO_x, and VOCs) and *higher* energy use in Ontario than would be the case without NAFTA. Since the overall growth rate of the economy is assumed slightly lower under the NAFTA scenario, these changes in environmental impact are due, not to growth in GDP but to a shift in the sectoral composition of output. Any growth in the economy in excess of the assumption made in the NAFTA scenario would increase residual discharges and resource use beyond the effects estimated here. Further provisos concerning the interpretation of the results are presented at the conclusion of this section.

5.2 Computable General Equilibrium Results

We stressed in section 4 that the alternative growth scenarios just discussed represent a short run response to the implementation of free trade. In the longer run, free trade agreements should lead to a certain restructuring of the economy and "full employment" should be restored, although the distribution of income may be permanently altered. The final structure of the economy is predicted by a Computable General Equilibrium model.

In this subsection we compare base environmental impacts with those implied by the Roland-Holst, Reinert and Shiells (RRS) CGE scenario which was discussed in section 4. It should be noted that the RRS scenario calls for very large increases in the production of transportation equipment and large increases in the output of the primary metals industry (see the Technical Appendix, Table C.3). Readers are also reminded that these results are reported in order to link our study to the CGE literature and that the results of this CGE model are driven by assumptions which may not be fully justified in the case of North American Free Trade.

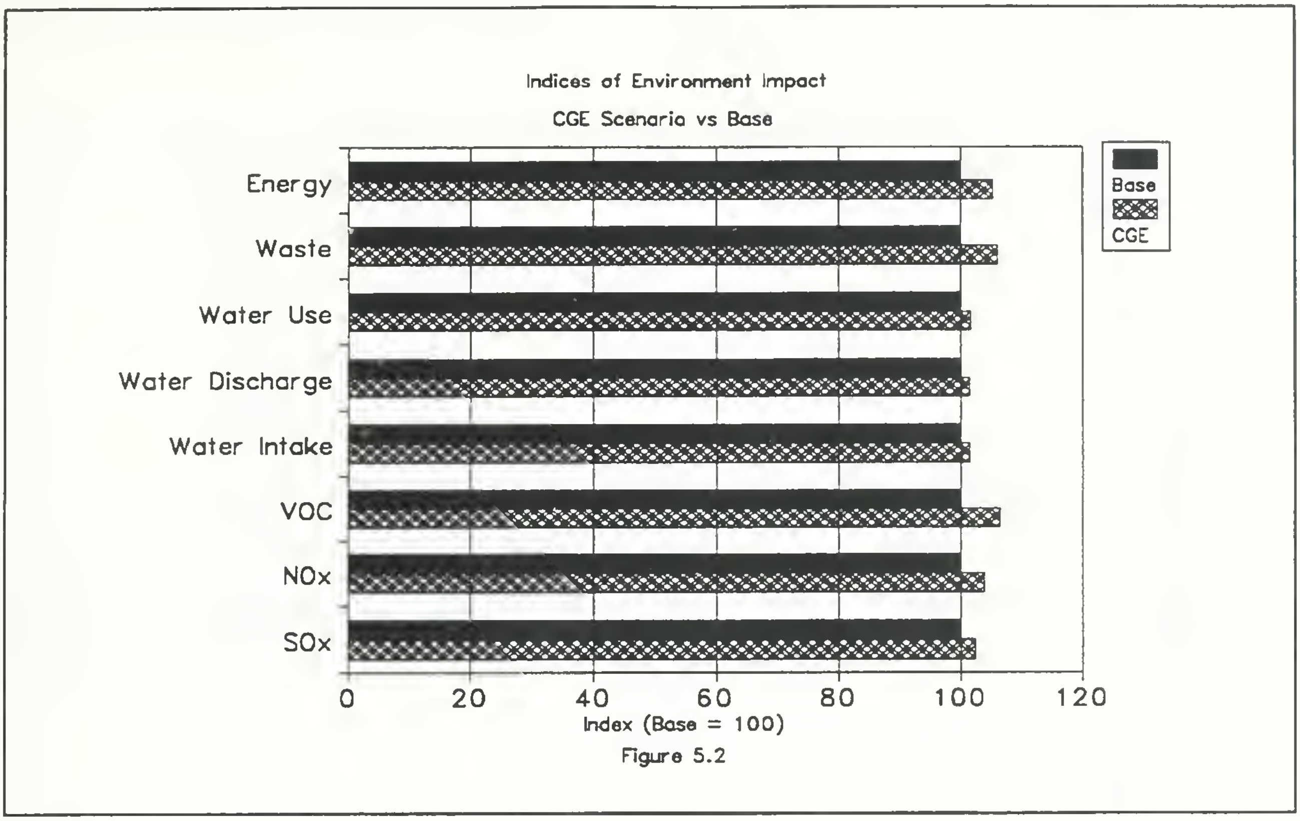


Figure 5.2

Figure 5.2 and Table 5.2 indicate that, even with the implied restructuring of the economy, the overall impact of freer trade is not particularly large. Notice that these percentages are **not** annual rates of growth, but final changes in the overall level of output in each industry. The increase in VOCs and waste generation are largest, both of which increase by somewhat more than 6%. Energy use is third largest, increasing by 5.5%. Water use grows only slightly (by about 1.3%) while SOx and NOx increase by intermediate amounts.

5.3 Trade Action Results

Figure 5.3 and Table 5.3 analyze the differential impact of an increase of $1 billion for the output of industries at various risks of trade action. These data show that the no risk industries are most environmentally intensive in all categories except energy use and VOCs, high risk industries are most intensive in energy, VOCs and waste generation, and low risk industries are least intensive in most categories. The presence of power generation in the list of no risk industries probably explains the

Table 5.2
Percentage Changes in Emissions and Resource Use: CGE Scenarios

	Unit	Base	CGE	Change	Percent
SOx	(a)	547,158	560,519	13,361	2.44
NOx	(a)	199,960	207,771	7,811	3.91
VOC	(a)	16,349	17,420	1,071	6.55
Water Intake	(b)	1,594,640	1,620,630	25,990	1.63
Water Discharge	(b)	1,578,673	1,604,396	25,723	1.63
Water Use	(b)	15,967	16,234	267	1.67
Waste	(a)	15,532	16,503	971	6.25
Energy	(c)	3,519,821	3,713,250	193,429	5.50

Notes:

(a) Tonnes per year
(b) Million cubic metres per year
(c) Exajoules per year

The data represent the difference between 1990 observed values and the *counterfactual* scenario that NAFTA had been implemented before 1990 and that the economy had fully adjusted to the NAFTA by 1990.

pollution intensity of this category.

These results leave a mixed impression concerning the environmental impact of trade harassment. The industries at greatest risk of trade harassment are somewhat more energy and waste intensive than the industries at little or no risk. If the threat of harassment deflects investment from high risk industries to low risk ones, there should be a slight reduction in overall energy consumption and waste production. The same is true of VOCs. Water use and discharges of SOx and NOx would be *increased*, however, if investment were redirected to the no risk industries.

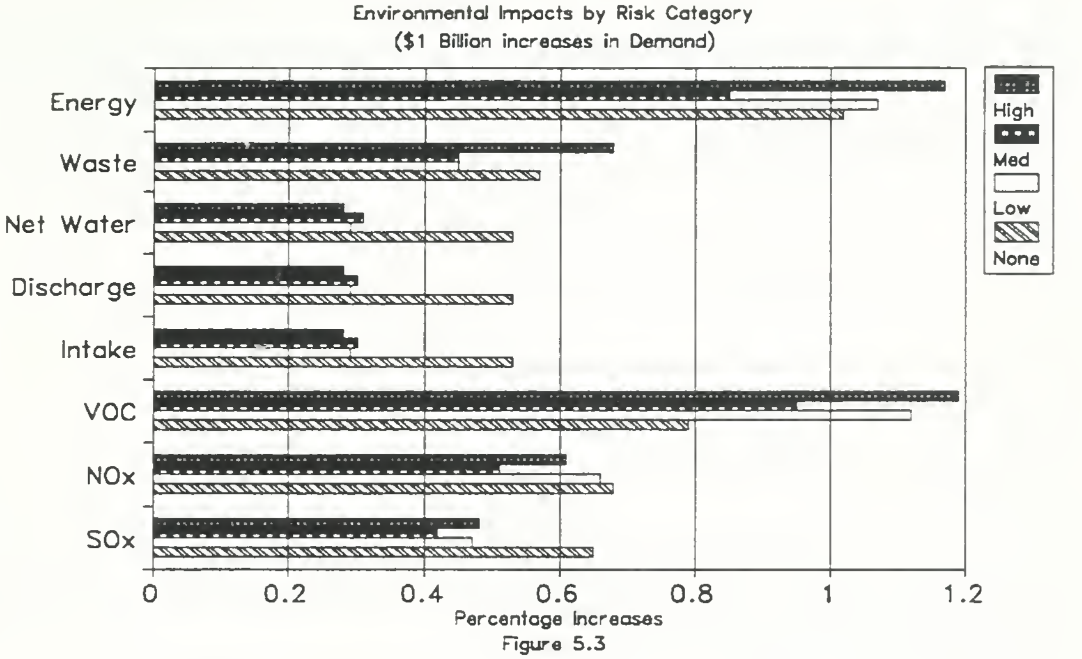


Figure 5.3

5.4 Overall Conclusions

We will summarize the results of the previous section by relating them to the four questions posed at the end of section 4.

First, what changes in the environmental impact of industry are possible over the next three years? Section 5.1 shows that, if the Province of Ontario continues to experience the slow growth conditions of the recent past, the environmental impact of industry will remain approximately constant. Solid waste generation would fall slightly as construction continued its slump, and the discharges in the remaining sectors would generally grow by less than 1% per year. On the other hand, if growth proceeds as the Ontario Treasury predicts it will, the province should witness annual growth rates in excess of 4.5% in all environmental impacts. The economic restructuring expected as a consequence of a NAFTA would be even faster growth in VOC discharges and in energy use.

Table 5.3
Change in Emissions and Resource Use from a One Billion Dollar Change in Final Demand, by Risk of Trade Action

Item	Units	Base	PERCENTAGE CHANGE BY RISK CATEGORY			
			High	Medium	Low	None
SOx	(a)	547,158	0.48	0.42	0.47	0.65
NOx	(a)	199,960	0.61	0.51	0.66	0.68
VOC	(a)	16,349	1.19	0.95	1.12	0.79
Water Intake	(b)	1,594,640	0.28	0.30	0.29	0.53
Water Discharge	(b)	1,578,673	0.28	0.30	0.29	0.53
Net Water	(b)	15,967	0.28	0.31	0.29	0.53
Waste	(b)	15,532	0.68	0.45	0.45	0.57
Energy	(c)	3,519,821	1.17	0.85	1.07	1.02

(a) Tonnes per year
(b) Million cubic metres per year
(c) Exajoules (J x 10^{18})

Second, how might a NAFTA affect Ontario's environment in the short run? The analysis of the preceding case shows that the most significant impact of a NAFTA would be the increases in VOC discharges and energy use just mentioned.

Third, how might a NAFTA affect Ontario's environment in the long run? Here, we must acknowledge the significant limitations of the CGE model on which our analysis is based. Given these limitations, however, the analysis suggests that restructuring the Ontario economy to meet the demands of freer trade would lead to a small increase in the environmental impact of industry, with the largest impact in VOC discharges, waste generation and energy use.

Finally, how might trade harassment under a free trade agreement affect Ontario's environment? One possibility is that the potential for trade harassment will reduce expansion of high risk industries and encourage expansion of those which are low or no risk. The environmental impacts are mixed. A reallocation of production from high risk industries to no risk industries would increase water intake, discharge and use, and increase SOx and NOx emissions, but decrease VOC emissions, waste generation and energy use. For reallocations measured in billions or tens of billions of dollars of output, the differential impacts are likely to be only a few percentage points.[420]

---

[420] Note that the reallocations being discussed are best considered one time readjustments in the composition of provincial output rather than adjustments continuing indefinitely. Thus the percentages given in Table 5.3 are once and for all percentages, not annual rates of change. The net result of reallocating output is given by the *difference* between columns. For example, a one billion dollar reduction in production of high risk industries would reduce energy use by 1.17 percent. The same increase in the production of no risk industries would increase energy use by 1.02 percent. The difference, 0.15 percent, is the net increase in energy use associated with the reallocation.

Technical Appendix to Chapter 8

A Details of the Input-Output Analysis

This section describes how we have analyzed the environmental impact of trade agreements. For precision, we have used mathematical notation that may be unfamiliar to some readers. We first describe our computational model and then comment on the sources of the data.

A.1 The Computational Model

The analysis is built on the conventional input-output structure augmented by environmental coefficients. Table A.1 sets out the notation. Note that bold upper case letters denote matrices, bold lower case letters denote vectors, and unemphasized lower case letters denote scalars.

Our model begins with the Social Accounting Matrix for the base year, Table A.2. The matrix $\mathbf{U}$ in the first row of the table is the USE matrix. It has m columns, one for each industry. The entries in each industry's column record the dollar value of the commodities used as intermediate inputs in that industry (compare Table 2.2). $\mathbf{F}$ is the final demand matrix. It has columns for each of the 5 components of final demand (consumption, fixed capital formation, government spending on goods and services, exports and imports). The entries in each column record the dollar value of commodities used in that category of final demand. $\mathbf{q}$ is the vector of gross output by commodity. Its entries record the sum of the corresponding rows of $\mathbf{U}$ and $\mathbf{F}$. The first row of Table A.2 thus indicates that the value of gross output of each commodity equals the sum of the values of intermediate and final uses of the commodity.

Matrix $\mathbf{V}$ in the second row of Table A.2 is the MAKE matrix. It has n rows, one for each industry. The entries in each row record the values of each commodity produced by the industry in the base year. The rows of $\mathbf{V}$ sum to $\mathbf{g}$, the vector of gross outputs by industry, and the columns of $\mathbf{V}$ sum to $\mathbf{q}'$, the vector of gross outputs by commodity.

Table A.1
Notation

Symbol	Dimension	Description
c	1	Number of Final Demand Components
n	1	Number of Commodities
m	1	Number of Industries
r	1	Number of Environmental Impact Categories
v	1	Number of Primary Input Categories
f	c	Final Demand by Component
g	m	Gross Output by Industry
q	n	Gross Output by Commodity
y	v	Income by Primary Input
B	n x m	Technology Matrix
D	m x n	Market Share Matrix
F	n x c	Final Demand by Commodity and Component
L	v x m	Primary Input Coefficients
R	r x m	Environmental Coefficients
U	n x m	Use Matrix
V	m x n	Make Matrix
W	r x m	Waste Discharges and Resource Use
Y	v x m	Primary Inputs by Industry
YF	v x c	Direct Use of Primary Inputs

Matrix **Y** in the third row of Table A.2 is the value added matrix. It has m columns, one for each industry, and v rows, one for each category of primary input (compare Table 2.1). The entries in each row of **Y** represent the value of payments to the corresponding primary input in each industry. $\mathbf{Y}_F$ is the matrix of value added in final demand. It records the value of payments to each primary input in each category of final demand, for example the direct purchase of labour by government or consumers. The rows of **Y** and $\mathbf{Y}_F$ sum to **y**, the vector of incomes by primary input. Since payments to capital are defined residually as the value of gross output less payments for all intermediate and other primary inputs, the columns of **U** and **Y** sum to the vector of gross outputs by industry, g'. The columns of **F** and $\mathbf{Y}_F$ sum to the value of final demands by component, f'.

So far, Table A.1 is completely conventional. Our extension to account for environmental impacts is embodied in Matrix **W** in the fifth row of Table A.1. Each element of **W** gives the quantity of a specific residual discharged or resource used in a particular industry. The rows of **W** sum to **w**, the vector of environmental impacts by category. Note that the entries in **w** and **W** are measured in physical units and do not enter the determination of g'.

Table A.2
Augmented Social Accounting Matrices

Row		Commodities	Industries	Final Demand	Row Sum
1	Commodities		U	F	q
2	Industries	V			g
3	Primary Inputs		Y	Yf	Yt
4	Wastes		W		
5	Column Sum (not 4)	q'	g'	Ft'	

From the accounting matrices in Table A.1, we derive the market share matrix, **D**, by dividing the columns of the MAKE matrix **V** by the corresponding element of **q**. Similarly, we derive the technology matrix, **B**, and the environmental impact matrix **R** by dividing the columns of U and **W** by the corresponding elements of the gross output by industry vector, **g**. Finally, we derive a final demand share matrix, **H**, by dividing the columns of **F** by the corresponding elements of **f**, the vector of final demand by component. In matrix notation, this may be written as

$$B = U\hat{g}^{-1} \tag{1}$$

$$D = V\hat{q}^{-1} \tag{2}$$

$$R = W\hat{g}^{-1} \tag{3}$$

$$H = F\hat{f}^{-1} \tag{4}$$

The central assumption of our model is that the matrices **B**, **D**, **R**, and **H** are fixed. Given this assumption, one may readily derive the main computational formulas used in this study, namely

$$w = Rg \tag{5}$$

and

$$g=(I-DB)^{-1}DHf \tag{6}$$

Equation (5) shows how environmental impacts can be calculated from any vector of industry outputs, g. Equation (6) shows how the vector of industry outputs can be calculated from any vector of final demand components, f, or final demands by commodity, **Hf**. In this study, we use equation (6) to derive two sets of scenarios. A third scenario uses an alternative estimate of the industry output vector, g.

B Data Source

The economy-environment linkages are articulated within a spatial general equilibrium framework. The economic core of this framework is an input-output system which describes the activities of production, consumption and accumulation within a consistent accounting framework. These input-output accounts are one element of the Canadian System of National Accounts (SNA), which is maintained by Statistics Canada. (See Statistics Canada Cat. 13-589E for an overview of the CNSA, and Statistics Canada Cat. 15-510 for the input-output system).

B.1 Inflation to 1989 Values

Although input-output data is provided on an annual basis for Canada, data for the provinces are provided only at five to six year intervals. In particular the data have only been developed for the years 1974, 1979 and 1984, with the next publication planned for the year 1990 (but not available until late 1993). Thus the model is based on the 1984 data for Ontario. The data have been converted to 1989 values by following the "double-deflation" method which Statistics Canada uses to produce input-output data at constant prices (see Statistics Canada Cat. 15-511). This procedure is based on industry price indexes taken from Statistics Canada, as identified below. These industry prices are used to calculate a consistent set of commodity prices based on the market shares derived from the output matrix. Subsequently, all commodity elements in the three matrices of the input-output system are converted to 1989 values, using these commodity price indexes. Applying the industry price indexes to the column totals of the input matrix gives 1989 values for industry outputs. After labour income, indirect taxes, less subsidies and unincorporated acinous income, have been converted to 1989 values; operating surplus (the last element in the value-added portion of the input matrix) is calculated as a residual. Detailed sources for the price and wage indexes used to make this adjustment are described below.

B.2 Price Indexes

The price index for Agriculture in Ontario was taken from 'Index of Farm Prices for Agricultural Products', Statistics Canada 62-003, Table 2: Farm Product Price Index, by Province (1981=100): Ontario September 1989 data from September 1989 Vol. 44 No. 9 pg. 3, Ontario September 1984

TABLE B-1

Manufacturing Industry Price Indexes

M-Level Industry No.	Sept. '84 Page No.	Sept. '89 Page No.
8	70	70
9	71	71
10	72	72
11	72	72
12	72	72
13	72	72
14(a)	73	73
14(b)	73	73
15	73	73
16	73	73
17	74	74
18	75	75
19	75	75
20	76	76
21	76	76
22	77	77
23	77	77
24	79	79
25	80	80
26	81	81
27	81	81
28	82	82

from December 1986 Vol. 41 No. 12 Pg. 3.

The manufacturing industry price indexes were taken from 'Industry Price Indexes', Statistics Canada 62-011, Table 3: Industrial Product Price Indexes, by Industry & Industry Group.

The Fishing & Trapping, Logging & Forestry, Crude Petroleum & Natural Gas and Quarry & Sand Pit Industries price indexes were taken from 'Industry Price Indexes' Statistics Canada 62-011. September 1989 indexes are from Vol. 15 No. 9 September 1989 and September 1984 indexes are from Vol. 14 No. 12 December 1988.

TABLE B.2

Price Indexes for Resource Industries

Fish	90
Wood	90
Ferrous Materials	91
Non-Ferrous	92
Coal	93
Crude Mineral Oil	93
Natural Gas	93
Furs, Hides & Skins	89
Stone	93
Sand & Gravel	93

The Construction Price Index is the Toronto price index for Non-Residential Construction from 'Construction Price Statistics', Statistics Canada 62-007, Table 7.1 Outputs Price Indexes of Non-Residential Construction, 1981=100, 1989 Second Quarter from Second Quarter 1989 Vol. 5 No. 2 Pg. 38 and 1984 Second Quarter from Fourth Quarter 1988 Vol. 4 No. 4 Pg. 38.

The Price Index for Services Third Quarter 1989 was taken from 'Canadian Economic Observer' Statistics Canada 11-010 Vol 2. No. 12 December 1989, Table 1-13 Implicit Price Indexes, Gross Domestic Product Pg. 6.15. The Price Index for Services Third Quarter 1984 was taken from 'National Income & Expenditure Accounts' Statistics Canada 13-001 Second Quarter 1989 Vol. 37 No. 2, Table 21 Implicit Price Indexes, Gross Domestic Product Pg. 41. For most service industries, with the exceptions of transportation and utilities, wage indexes for the corresponding industry were also used as industry price indexes. This procedure is justified by the fact that labour makes up the largest part of cost in these industries and that wages and prices in service industries as a whole have changed in almost identical proportions between 1984 and 1989. This procedure also has the advantage of using Ontario wage indexes rather than national price indexes for these industries.

Various other price indexes were taken from 'Consumer Prices and Price Indices Quarterly', Statistics Canada 62-010. The September 1989 Indexes were from Vol. 15 No. 3 July-September 1989 and the September 1984 Indexes were taken from Vol. 13 No. 4 October-December 1987. Page numbers are given below.

In addition to the input-output and price data described above, the model uses data to calculate direct tax rates in order to quantify the impact on tax revenues. Data on direct taxes by industry and direct taxes paid by households for Ontario in 1984 were obtained from 'The Provincial Economic Accounts Annual Estimates 1976-1987', Statistics Canada 13-213, February 1989. Wages, Salaries and Supplementary Labour Income, Corporation Profits Before Taxes, Interest and Miscellaneous Investment Income, Accrued Net Income of Farm Operators from Farm Production and Net Income of Non-Farm Unincorporated Business, Including Rent were taken from Table 1: Provincial Gross Domestic Product, Page 14. Direct taxes: From Persons, From Corporate and Government Business Enterprises and From Non-Residents (withholding taxes) were taken from Table 3: Government Sector Revenue and Expenditure, Page 43 for total tax, from Table 4: Federal Government Revenue and Expenditure, Page 43 for federal taxes and from Table 5: Provincial Government Revenue and Expenditure, Page 72 for provincial taxes. Table 9: Direct Taxes- Persons, Page 130 provided Federal and Provincial Income taxes and Employer and Employee Contributions to Public Service Pensions. Employer and Employee Contributions to Unemployment Insurance and to Canada Pension Plan and Employer Contributions to Workmen's Compensation also

TABLE B-3

Price Indexes - Recreation

Industry	Page Sept. 1989	Page Sept. 1984
Movies	37	37
Spectator Sports Events	38	38
Entertainment Performances	37	38
Alcoholic Beverages	38	39
Traveller Accommodation	31	31

were taken from this table.

Total federal income taxes and provincial income taxes were taken from 'Corporation Taxation Statistics,' Statistics Canada 61-208 1985, Table 4: Federal and Provincial Income Taxes, By Major Industry Group, 1984 and 1985, page 26. Taxable income by major industry for Ontario was taken from the same source, Table 5: Provincial Allocation of Taxable Income by Major Industry Group, 1984 and 1985, Page 39. Book profit before taxes, taxable income and income taxes by industry for Canada were taken from Table 8: Income Taxes by Industry, 1984 and 1985, Page 64-69.

B.3 Energy

The model also calculates impact on energy use. Data on energy use in Ontario in 1984 was taken from the 'Quarterly Report on Energy Supply-Demand in Canada,' Statistics Canada 57-003 1984-IV, Vol. 9, No. 4 Table 8B: Primary and Secondary Energy-Ontario-1984 Quarter 4 Page 80-1. Indexes are from Vol. 14, No. 12 December 1988.

B.4 Air

These coefficients are derived by VHB Consulting and Research Incorporated (VHB) from the 1985 Ontario Emissions Inventory obtained from the Ministry of Environment Air Resources Branch.

B.5 Water

Water intake and discharge by industry and location in 1986 was extracted from the Environment Data Base (EDB) in 1986.

B.6 Waste

Data on solid waste generation by activity and region was obtained from VHB.

C. Trade Scenarios

C.1 Introduction

Three groups of scenarios, Alternative Growth Scenarios, a Computable General Equilibrium Scenario and Trade Action Scenarios, are described in the following sections.

C.2 Alternative Growth Scenarios

These scenarios are presented in Table C.1 together with base levels of output and historical growth rates. Column 1 of that table shows estimates of gross output by industry, measured in millions of 1990 constant dollars. These estimates are derived from the LINK model, using estimates of provincial gross domestic product (expenditure based) for 1984 from Statistics Canada and extrapolated to 1990 using the CPI. Column 2 of Table C.1 shows the average annual growth rate in industry output for the post-FTA years, 1989-90 and 1990-91. These are computed from estimates of output by industry derived in the same way as those for 1990. This should be compared to the four scenarios now described.

TABLE B-4

Price Indexes for Services and Transportation

Industry	Page Sept 1989	Page Sept 1984
Transportation	67	67
Owner Accommodation	67	67
Education	68	68
Health & Personal Care	68	68
Recreation	68	68
Restaurant Food	66	66
Food	66	66

C.2.1 Zero Growth, 1991-1994

As noted in the text, this scenario assumes that there will be no overall growth or decline in provincial GDP but that individual industries will grow or contract relative to each other in the pattern observed for 1989-91. The entries in column 2 are growth ratios - the ratio of 1994 output to that of 1991. Since this was a period in which growth rates were uniformly negative, the assumption that the provincial growth rate was zero implies that industries with small declines will actually show a growth ratios greater than one in column 3. Output changes by industry have been computed by scaling the observed growth ratios to make the weighted average growth ratio of all industries equal to 1.00. More precisely, let x_{it} be the output of industry i in year t. Define the growth ratio, r_{it}

$$r_{it}=\frac{x_{it}}{x_{i\,t-1}} \tag{7}$$

The rates of growth, g_{it}, in Column 3 of Table C.1 are simply

$$g_{it}=\hat{r}_{it}-1 \tag{8}$$

where the adjusted growth rate, scenario 1, is defined as

$$\hat{r}_{it}=r_{it}\frac{GDP_{1990}}{GDP_{1991}} \tag{9}$$

and GDP_t is provincial gross domestic product for year t.

The zero growth scenario can be used as a benchmark for evaluating other scenarios.

C.2.2 Treasury Growth Forecasts, 1991-94

This scenario assumes that the forecast rates of growth published by the Ontario Treasury (Ontario, 1992 Budget, p 58) are accurate in the case of Government Expenditures, Investment, and Exports. These estimates, shown in Table C.2, are treated as exogenous changes and the implied levels of output by industry are then computed using the ERL LINK model. Note, however, that in these scenarios consumption and imports are endogenous and the totals of these for all industries are those computed using the LINK model, not the totals specified by Treasury. The output levels obtained from the LINK model for 1991 and 1994 were used to compute the annual average compound growth rates by industry shown in Column 4 of Table C.1.

C.2.3 NAFTA

This scenario assumes that the provisions of NAFTA are implemented in 1991 rather than 1995. The growth ratios associated with this scenario are shown in column 6 of Table C.1. They are derived in two stages. First, Column 5 was prepared by Bruce Campbell on the basis of his research conducted for other chapters in this Study. Each entry in column 5 is the amount by which (on the basis of his research) the growth estimates derived from the Treasury data (in column 4) appear to be too large or too small if NAFTA were assumed to be in place. Next, the actual growth ratio shown in column 6 is obtained as the sum of columns 4 and 5.

C.3 A Computable General Equilibrium Scenario

This scenario is drawn from the study by Roland Holst, Reinert and Shiells (RRS).[421] The RRS scenario is summarized in Table C.3. Column 3 of that table shows the percentage change in the output of the 25 LINK industries implied by RRS's experiment 3. Column 1 of Table C.3 summarizes the price distortions found by RRS. These should be interpreted as the price level in the specified industry relative to average domestic prices in approximately 1982. These data will be used in the financial analysis of free trade agreements later in this report. Column 2 will also be used in later analyses. It reports what the domestic relative prices would be if the distortions of column 1 were removed. Column 2 is expressed as a fraction of pre-agreement prices. Column 3 is the output change predicted by RRS for their experiment 3. That experiment envisaged eliminating all tariff and non tariff barriers in a world of increasing returns to scale, Cournot pricing and free entry.

---

[421] Roland-Holst, David; Reinert, K.A.; Shiells, C.R. (1992) North American Trade Liberalization and the Role of Non-Tariff Barriers. Paper No. 10, Economy Wide Modelling of the Economic Implications of a FTA with Mexico and a NAFTA with Canada and Mexico. US International Trade Commission, Publication 2508.

Table C.3 may be better interpreted by considering the RRS model in more detail. The key features of the model are as follows:

- The model is calibrated to 1988 social accounting data for the three countries.

- The effect of tariff distortions is measured by 1988 observed tariff collections. The effect of non-tariff barriers is approximated by the coverage ratio for each product. (The coverage ratio is the value of imports affected by non-tariff barriers divided by the total value of imports in that category.)

- Relative price discrepancies are based on a 1982 study.

RRS assume:

- each country has a fixed stock of capital;

- each country has an unlimited supply of labour at a fixed wage rate;

- there are unexploited economies of scale in domestic production;

- free trade will eliminate price discrepancies due to tariff and non-tariff barriers.

RRS report four experiments examining the effect of removal of tariffs alone, removal of tariff and non-tariff barriers, increasing returns to scale with free entry, and increasing returns to scale with no entry and contestable markets. The results of these simulations depend somewhat on the assumptions made about the degree of economies of scale and the nature of imperfect competition. We have chosen their third experiment, in which it is assumed that there is free entry and that prices are determined by Cournot competition. This specification leads to results that are not dissimilar to those of a perfectly competitive specification.

The RRS study provides estimates based on a 26 industry classification slightly different from that used in the ERL LINK model. We first mapped the 26 RHRS industries into the 25 LINK industries using weights based on commodity data used in LINK. Table C.4 shows the concordance and weights used. Using these weights, we mapped the percentage changes in output predicted by RHRS into percentage changes in the gross output of the 25 LINK industries. These are also shown in Table C.4.

C.4 Trade Action Scenarios

In addition to the above scenarios, we also consider the environmental characteristics of industries at high, medium, low and unclassified risk of trade action. This analysis is based on ranking prepared by Scott Sinclair as part of his analysis reported elsewhere in this Study. Table C.5 shows his results mapped into the 40 commodity classifications used in the Ontario input output table. Table C.6 compares the environmental impact of a $1 billion change in final demand for these commodities, distributed according to the commodity weights in total 1990 final dmand for each risk category. Table C.7 shows the implied change in gross output by industry.

Table C.1
Alternative Growth Scenarios Expressed as Annual Rates of Growth

INDUSTRY	Base Levels 1990 (1)	Average Actual Growth 89-91 (2)	Zero Provincial Growth 91-94 (3)	Ontario Treasury Forecast 91-94 (4)	Rec. Adjustment to Treasury Forecast (5)	Resulting Growth Forecast (6)
		%	%	%	%	%
Agriculture	7743	-0.72	1.13	4.83	0.00	4.83
Forestry	998	-2.25	-0.43	5.21	1.71	6.92
Fishing	91	-0.70	1.14	4.92	0.0	4.92
Mining	2590	-1.52	0.31	5.23	5.35	10.58
Food	19642	-0.73	1.11	4.72	-2.00	2.72
Textiles	5385	-1.04	0.80	5.10	0.21	5.31
Knitting	2861	-0.66	1.18	4.60	-5.73	-1.13
Wood	2463	-3.73	-1.95	5.40	0.34	5.74
Furniture	2882	-1.64	0.18	5.17	-6.29	-1.12
Paper	9614	-1.06	0.78	5.13	-1.79	3.34
Printing	7712	-0.70	1.14	4.63	-3.38	1.25
Primary Metals	15663	-1.77	0.05	5.42	5.00	10.42
Metal Fabricating	13452	-2.66	-0.85	5.40	-2.61	2.79
Machinery	16563	-2.50	-0.69	5.75	-2.63	3.12
Transportation	56049	-1.13	0.70	5.41	-2.10	3.31
Electrical Products	11818	-2.16	-0.34	5.50	-2.76	2.74
Non-metallic Minerals	4967	-4.00	-2.22	5.33	0.13	5.46
Petroleum Products	13280	-1.13	0.71	4.65	3.57	8.22
Chemical Products	15153	-1.19	0.65	5.03	3.49	8.52
Other Manufacturing	15847	-1.33	0.50	5.12	0.00	5.12
Construction	29528	-9.35	-7.67	5.43	0.00	5.43
Utilities	39672	-0.85	0.99	4.64	0.00	4.64
Trade	73448	-1.45	0.37	4.63	3.13	7.76
Travel and Acc.	73919	-0.84	1.00	4.54	0.00	4.54
Housing	17861	-0.60	1.25	4.09	0.00	4.09
Total	459199.7	-1.82	0.60	4.93	0.00	4.30

Table C.2
Actual and Forecast Percentage Changes in GDP by component, 1989-1995

Item	1989	1990	1991	1992	1993	1994	1995
Consumption	3.0	0.4	-0.1	2.8	2.6	2.4	2.5
Government	4.4	4.9	5.4	1.6	3.0	2.0	3.0
Residential Construction	8.1	-14.7	-14.7	19.8	9.8	8.9	7.9
Non-residential Construction	-11.0	-13.7	-14.8	-1.9	4.5	4.8	3.4
Machinery and Equipment	2.7	-8.2	-2.9	5.4	6.5	6.8	5.9
Exports	0.5	2.1	-3.9	4.0	3.9	3.5	4.3
Imports	2.7	-1.8	-1.7	7.1	5.1	4.4	4.8
Real Gross Domestic Product	2.4	-0.8	-1.9	3.8	3.7	3.5	3.4

Source: 1989 data from Ontario, Ministry of Treasury and Economics and Statistics Canada. Ontario Economic Accounts, March 1992.

1990-1995 data from Ontario Budget, April 1992, p.58

Table C.3
The RRS Scenario

LINK Industry	Distortions before Agreement	Post-Agreement Prices	Change in Output (%)
Agriculture	0.00	1.000	-6.30
Forestry	0.00	1.000	0.00
Fishing	0.00	1.000	0.00
Mining	0.15	0.870	6.20
Food and Beverages	0.10	0.909	2.06
Textiles	0.00	1.000	1.40
Knitting	0.07	0.935	4.50
Wood	0.00	1.000	7.50
Furniture	0.00	1.000	0.00
Paper	0.09	0.917	1.40
Printing	0.00	1.000	0.00
Primary Metals	0.01	0.990	19.46
Fabricated Metals	0.00	1.000	7.50
Machinery	0.00	1.000	6.90
Transport. Equip.	0.00	1.000	55.00
Electrical Prod.	0.01	0.990	7.40
Non-Metal Mining	0.01	0.990	6.50
Refined Petroleum	0.00	1.000	0.00
Chemicals	0.20	0.833	5.00
Other Manufactured	0.38	0.725	6.82
Construction	0.00	1.000	2.30
Other Utilities	0.00	1.000	1.60
Trade	0.00	1.000	3.10
Services	0.00	1.000	2.22
Imputed Rent	0.00	1.000	0.00

Table C.4
Calculation of Percentage Changes in Output, CGE Scenario

					Weight times % output change		
LINK No.	LINK Industry Name	RRS No.	RRS Industry Name	WEIGHT	RRS	WT	LINK
1	Agriculture	1	Agriculture	1.000	-6.30	-6.30	-6.30
2	Forestry	0	None	1.000	0.00	0.00	0.00
3	Fishing	0	None	1.000	0.00	0.00	0.00
4	Mining	2	Mining	1.000	6.20	6.20	
		3	Petroleum	0.000	13.60	0.00	6.20
5	Food & Beverages	4	Food Processing	0.600	1.70	1.02	
		5	Beverages	0.400	2.60	1.04	2.06
6	Textiles	7	Textiles	1.000	1.40	1.40	1.40
7	Knitting	8	Apparel	1.000	4.50	4.50	4.50
8	Wood	16	Wood	1.000	7.50	7.50	7.50
9	Furniture	0	None	1.000	0.00	0.00	0.00
10	Paper	10	Paper	1.000	1.40	1.40	1.40
11	Printing	0	None	1.000	0.00	0.00	0.00
12	Primary Metals	14	Iron & Steel	0.930	19.70	18.32	
		15	Non-Fer Metal	0.070	16.20	1.13	19.46
13	Fabricated Metals	16	Wood & Metal	1.000	7.50	7.50	7.50
14	Machinery	17	Non-Electric Mach.	1.000	6.90	6.90	6.90
15	Transportation	19	Transportation	1.000	55.00	55.00	55.00
16	Electrical Products	18	Electrical Products	1.000	7.40	7.40	7.40
17	Minerals	13	None-Mineral Prod.	1.000	6.50	6.50	6.50
18	Refined Petroleum	0	None	1.000	0.00	0.00	0.00
19	Chemicals	11	Chemicals	1.000	5.00	5.00	5.00
20	Other Manufacturing	6	Tobacco	0.139	0.50	0.07	
		9	Leather	0.253	4.50	1.14	
		12	Rubber	0.253	14.90	3.77	
		20	Other Manufact.	0.354	5.20	1.84	6.82
21	Construction	21	Construction	1.000	2.30	2.30	2.30
22	Other Utilities	22	Electricity	1.000	1.60	1.60	1.60
23	Trade	23	Commerce	1.000	3.10	3.10	3.10
24	Services	24	Trade and Commerce	0.205	3.40	0.70	
		25	Finance & Real Est.	0.227	1.70	0.39	
		26	Other Services	0.568	2.00	1.14	2.22

Table C.5
Risk of Trade Action Against Specified Commodities

High Risk			
Wheat	1	1	Grains
Potatos	2	3	Other Agricultural Products
Lumber and Wood	3	4	Forestry Products
	14	36	Lumber and Timber
	14	37	Veneer and Plywood
	14	38	Other Wood and Fabricated Material
Steel	18	45	Iron and Steel Products
Metals	18	46	Aluminum Products
	18	47	Copper and Copper Alloy
	18	48	Nickel Products
	18	49	Other Non-Ferrous Metals
Medium Risk			
Lobster	4	5	Fish Landings
Textiles	12	31	Yarns and Man-Made Fibres
	12	32	Fabrics
	12	33	Other Textile Products
Apparel	13	34	Hosiery and Knitted Ware
	13	35	Clothing and Accessories
Paper & Allied	16	41	Newsprint and Other Paper
	16	42	Paper Products
Motor Vehicles	21	55	Motor Vehicles
	21	56	Motor Vehicle Parts
Shipbuilding	21	57	Other Transportation Equipment
Low Risk			
Farm Equipment	20	53	Agricultural Machinery
Industrial Equip	20	54	Other Industrial Machinery
Telecom. Equipment	22	58	Appliances and Receivers, Household
	22	59	Other Electrical Products
Chemicals	25	64	Industrial Chemicals
	26	68	Scientific Equipment
Aerospace			

Notes: **Reason** is name of commodity as identified by Scott Sinclair. **Code 47** is 47 Category Input Output Commodity Code. **Code 100** is 100 Category Input Output Commodity Code. **Description** is name of Category in 100 Category Input Output commodity classification.
Source: Adapted from Scott Sinclair

Table C.6
Distribution of an Increase in Final Demand by Commodity by Risk Category*

	Change in Risk Category ($'s)			
Commodity	High	Med	Low	None
Grains	62	0	0	0
Other Agriculture Production	85	0	0	11
Forestry	5	0	0	0
Fishing and Trading	0	1	0	0
Metal Ores	0	0	0	5
Mineral Fuels	0	0	0	1
Non-Metallic Minerals	0	0	0	2
Services to Mining	0	0	0	1
Food, Meats and Beverages	443	0	0	60
Tobacco	0	0	0	6
Rubber, Leather and Plastic	0	0	0	21
Textiles Products	0	38	0	0
Clothes and Knitted Prod.	0	22	0	0
Lumber, Sawmill and Wood	83	0	0	0
Furniture and Fixtures	0	0	0	17
Paper and Paper Prod.	0	96	0	41
Printing and Publishing	0	0	0	16
PriMetPr	321	0	0	0
Metal Fabricated Prod.	0	0	0	41
Machinery and Equipment	0	0	409	0
Autos and Transport Equip.	0	843	0	0
Elect. Communication Prod.	0	0	291	0
Non-Metallic Mineral Prod.	0	0	0	13
Petroleum and Coal Prod.	0	0	0	24
Chemical Production	0	0	182	50
Misc. Manufactured Prod.	0	0	118	32
Residential Construction	0	0	0	101
Non-Residential Construct.	0	0	0	117
Repair Construction	0	0	0	7
Transportation and Storage	0	0	0	62
Communication Services	0	0	0	8
Other Utilities	0	0	0	2
Wholesale Margins	0	0	0	106
Retail Margins	0	0	0	6
Owner's Imputed Rent	0	0	0	0
Insurance,Real Est &Finance	0	0	0	70
Business Services	0	0	0	55
Personal and other Services	0	0	0	50
Transportation Margins	0	0	0	44
Oper. Office, Lab and Food	0	0	0	19
Transportation Margins	0	0	0	10
Labour Income	0	0	0	0
Operating Surplus (Margins)	0	0	0	0
Taxes	0	0	0	0
Total	1,000	1,000	1,000	1,000

*Each entry records the increase in final demand for the corresponding commodity when the total demand element for commodities in that risk category rises by $1,000.

Table C.7
Distribution of an Increase in final Demand by Risk Category*

LINK Industry	Millions of Dollars			
	High	Med	Low	None
Agriculture	372.9	16.5	23	60.8
Forestry	27.6	13.7	4.3	12.5
Fishing	0.8	1.4	0.1	0.6
Mining	135.1	82.4	103.8	99.9
Food and Beverage	606.4	24.4	35.4	114.1
Textiles	7.3	107.6	13.6	14.2
Knitting	1	27.3	1.6	2
Wood	97.5	10.7	7.3	25.5
Furniture	1.4	0.9	2.6	16.3
Paper	38.9	140.4	33.7	86.5
Printing	18	21.6	16.9	45
Primary Metals	422.3	197.2	189.1	85.5
Fabricated Metals	57.2	85.5	118.2	95.6
Machinery	23.4	66.6	478.7	37.5
Transportation	29.2	1327.9	89	47.5
Electrical Products	13.7	37.5	329	31.5
Minerals	19.3	20.1	14.8	39.3
Refined Petroleum	152.3	103.8	159	180.4
Chemical Products	88.6	81.9	299.2	134.9
Other Manufacturing	41.5	109.6	178.3	107.2
Construction	26.6	14.9	16.1	246.4
Utilities	109.3	118.7	112.7	209.2
Trade	132.2	103.6	125.3	288
Services	219.6	272	218.9	375

* Each entry records the increase in gross output of the corresponding industry given that final demand for commodities in that risk category rises by $1,000.

D. The Link Model

The data and economic analysis underlying the present study were originally developed for the Link model. In this appendix we present the basic structure of the model. Some of the material repeats from a different perspective the material in earlier sections of this chapter.

D.1 Introduction

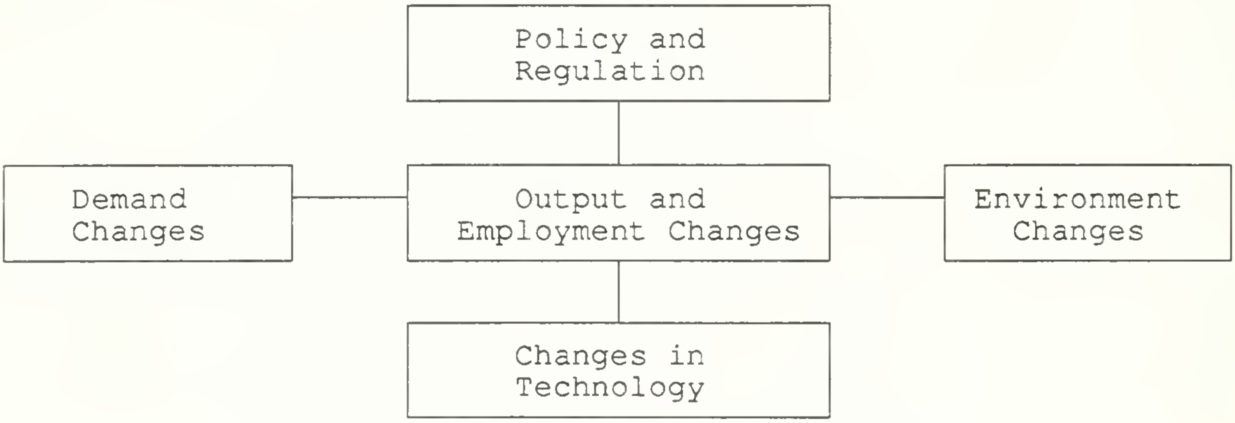
Standard economics textbooks portray the economy as a closed circuit model with households supplying the factors of production (land, labour, capital and entrepreneurship) to firms that produce the output and distribute income to households. The monetary value of production is equal to the sum of factor payments as profits are treated as a residual item that balances the two accounts--production and income. Since households spend all of their income in this model total production is equal to total expenditures (consumption) and gross domestic product is a prism with three equal sides--production, expenditures and income.

This simple economy ignores the fundamental relationships that connect the economy to the environment. The links are multidimensional. First, the natural environment supplies resources (renewable and non-renewable) to the production process. Second, the natural environment provides the space within which economic activity is carried. Third, the natural environment assimilates the waste discharged by households and firms in the processes of production and consumption.

It is therefore difficult and meaningless to evaluate economic activity in isolation of its interface with the natural environment. A more complete assessment of economic activity will also include the environmental impacts of this activity on the absorption of natural resources and the production of waste and pollution. Similarly, any discussion of the environment in isolation of the economic costs and impacts on the economy will provide only a partial and sometimes naive perspective on environmental issues and concerns.

The main study of which the Link Model is a by-product is rooted in the framework of sustainable development discussed in section 1. The latter is predicated on a comprehensive linkage between the economy and the environment and on maintaining balance between the human economy and natural environment.

The Model identifies four basic determinants of economic and environmental impacts. These pertain to level (scale) or scale of production and consumption, changes in the composition of demand, changes in technology and changes in the location of activity. The basic organizing principle of the system is that economic changes drive environmental changes. The line of causation starts with demand changes that trigger output and employment changes given technology, which in turn, determine the environmental impacts. The model is an open system in the sense that it does not permit feedbacks from the environment to the economy. The three basic determinants of change are discussed below.



D.2 Demand Effects

First, the level of economic activity is driven by final demand changes. It is not always the case that changes in final demand are translated into pure output and income change. If the economy is operating with excess capacity, high levels of unemployment and low inflationary expectations, only then is it possible to accept that changes in final demand will be reflected primarily in output changes. If, on the other hand, the economy is operating at or near full capacity and full employment then most of the change in final demand will be manifested in higher prices. The Link Model is basically a demand driven output adjusting model. What this means is that it translates demand changes fully into output changes. To the extent that this is not the case some adjustment is required to partition the output change between prices and quantity changes. But it is output changes that relate the economy to the environment. Output change is the transmission mechanism between economic and environmental impacts. It is necessary to adjust demand changes to reflect values in 1990 constant dollars. The system is then able to deflate these values to the 1984 technical relationships embedded in the input/output system as produced by Statistics Canada.

An increase in demand for any particular product, say steel, will call for an equivalent increase in the output of the steel industry to meet the increased demand. This increase in the output of steel and the income it creates within steel production is referred to as the direct impact of the increase in demand. But the increase in steel production calls for an increase in iron ore production and energy as well as other inputs. But these intermediate inputs have to be produced too. We thus need to know all the intermediate goods needed to produce the intermediate inputs of iron ore and energy. It might seem that the series of calculations would go on without end. In fact, the mathematics described in the Appendix to the study show that it is possible to calculate easily and quickly the entire rounds of production. The sum of these rounds are referred to as the indirect effects. The changes in the system do not end here. At every round of production income is generated and received by labour, owners of capital and land as well as by entrepreneurs. These incomes are typically spent on goods and services. The output change that results from the expenditures of these incomes are referred as the induced effects of the original change in final demand. Thus, the original change in final demand results in a multiplied impact on the economy. This multiplier is reduced by leakages into taxes, saving, liquidity demand, and imports. The major reduction is likely to come from increases in prices. Input output analysis typically excludes leakages into liquidity preference and delinks investment from interest changes. Perhaps the most restrictive assumption is that of no price change in response to demand increases. There is a room for more flexibility still, particularly in terms of demand changes and different mixes of the components of this demand. In the next section we turn next to the impact of changes in the composition of demand.

D.3 Demand Composition Effects

The restrictive nature of input output analysis is mitigated by the added flexibility and the rich menu of results it generates. In part this flexibility and richness are directly related to the fact that input output analysis provides a look under the hood of the economy into the gear work of the system. It does so because it disaggregates the economy into the constituting components--commodities and industries. This unique to the input output system that Statistics Canada produces on regular yearly basis for the national economy and at five years intervals for the interprovincial tables. Industries can and do produce more than one commodity and commodities are produced by more than one industry. (Interested readers can consult the Appendix to the report for details). The separation of commodities and industries permits the separation of technological coefficients from market shares. The former are more stable than the latter and are less susceptible to change. Breaking final demand into several commodities allows us to investigate the impact of changes in tastes or relative prices on the relative commodity compositions of demand. For example, a $1 billion change in consumption can have a totally different economic and environmental impact than a $1 billion change in investment demand. The two demands may involve totally different arrays of commodities.

Differences in demand composition may also require a different mix of domestic and imported products. This difference may carry implications for the location and scale of economic activity and therefore the consequent environmental impacts.

In general final demand is divided into five major categories--consumption, investment, government expenditures, exports and imports. Each one of these categories may in turn be divided into a number of sub-categories. For instance, investment is divided into construction and machinery.

D.4 Change in Technology Effects

Firms choose the combination of inputs to produce their target output in a manner that minimizes their total cost. When the prices of inputs change, firms respond by substituting cheaper inputs for the more expensive ones. If the cost of oil were to rise, firms respond by economizing on the use of oil and substituting other cheaper energy sources for oil. The extent to which inputs are substitutable is determined by the level of knowledge, existing technology and institutional constraints. At any given time there exists a sort of a cooking recipe for the production of any commodity. The components of this cooking recipe are what are generally referred to as the technological coefficients (use coefficients in the use matrix in the Appendix). Input output operates with the strong assumption that the average practice technology is used throughout the economy. All firms uses of inputs to produce their output are summed together and the totals are normalized (divided) by the total level of output to calculate the technological coefficients. These coefficients are then assumed to remain unchanged when the scale of output change. But technology changes and firms have before them several options to choose from. Restricting technological change will result in unrealistic results that exaggerate the importance of old and average practices.

D.5 The Structure of LINK

The Link Model is conceived within the input output framework but is extended to allow for different choices of final demand, technological processes and regional locations. The core of the system is the provincial input output tables for 1984 as produced by Statistics Canada. The model is closed by incorporating consumption and import demand equations that relate these variables to disposable income in the case of consumption and total income in the case of imports.

The final demand categories that are deemed to be exogenously determined are scaled to the base year of 1990 using actual Ontario Gross Provincial Aggregates from Statistics Canada, Ontario Economic Accounts. The commodity composition of investment, government expenditure and exports were left as they were in 1984. All prices in the system were expressed in terms of 1990 prices. Growth rates by category can be stipulated independently. Once these rates are determined expenditures may be scaled upward or downward and summed to result in the total exogenous final demand that drives the economy.

Since different growth rates can be stipulated to scale the different components of exogenous final demand categories, it is possible to investigate the economic impact of level and compositional changes in the economy. But since environmental impacts are related by fixed coefficients to the various levels of output and employment, economic and environmental impacts are determined simultaneously at least at the provincial level. When regional impacts are determined then regional differences are allowed to influence the results, albeit in a restricted way. Link is not a regional model. What it does is it allocates output to the various regions in proportion to their historical supply shares. Only the technological changes and the environmental coefficients are region specific. Link can be made more responsive to regional economic conditions. Econometric Research Limited has already accomplished that in a number of Ontario applications. The most sophisticated regional application is in the REIM model currently used by the Ontario Ministry of Natural Resources. In REIM local impacts are derived using a combination of input output techniques and location theory. Also, local consumption patterns are allowed to influence the results. It is a simple matter to change the geographical resolution from counties, as is currently the case, to watersheds. This can not be done except within the framework of a Geographic Information System (GIS). We have been partially successful in geocoding the industrial data. When all the industrial data are geocoded it will be a simple matter to move between counties and watersheds or any spatial arrangement of the data.

At present the results are allocated to six basic regions--Northeastern Ontario, Northwestern Ontario, Eastern Ontario, Central Ontario, Greater Toronto Area(GTA), and Southwestern Ontario and within each region to the individual constituent counties. Both the economic impacts and the environmental impacts are generated at the county level.

Economic impact of macroeconomic trends is identified in terms of a number of indicators. The list includes: sales (shipment), value added (GPI), taxes by type of tax and the level of government collecting the tax, employment in total and by 25 major industrial groups. The definition of the impact indicators are provided in the Glossary of Terms at the end of this section.

Environmental impacts are presented in terms of a number of indicators which include emissions (SO_x, NO_x, and VOC); water from the municipal water system as intake, discharge and net use; energy by five types of fuels in physical and energy units (crude oil, hydro, natural gas, coal, nuclear, and liquid petroleum) and solid waste by 19 types. It is our intention to expand the system to deal with the use of mineral resources and forestry products. Both the industrial and the regional patterns of environmental impacts are presented. The user can specify either one or both of these patterns.

Impacts are also sensitive to the technological choices of society. While input output analysis on fixed technical coefficients and constant returns to scale, an attempt is made to allow the user to choose between different technologies. The choice is limited to recycling. The objective is to demonstrate the ability of the system to handle technological choices. Equally important is the fact that all the environmental coefficients can be over written. The database collected by VHB is utilized as default values. Our knowledge is likely to improve with time and as more studies are made and expanded. To allow for a continuous update of our knowledge, all the coefficients relating economic data on output and employment (the two indicators are used interchangeably to underscore the fact that they are related to one another by fixed coefficients) to environmental activities are subject to change and can be changed on the screen. This flexibility is very important as changes in policy are likely to increase the efficiency of the environmental processes. Efficiency here is measured by lower emissions per unit of output. Investments in machinery to lower emissions can result in lower emissions per unit of output of the impacted industry.

Chapter 9

Conclusion

All economic activity, including trade, has important environmental impacts. At one time, international trade negotiations were mainly concerned with reducing tariffs. Today, the scope of these talks has expanded greatly to include investment measures, trade in services, intellectual property rights, natural resource management, agricultural support programs and harmonization of regulatory standards. "Free trade" affects far more than exports and imports. It involves deregulating all aspects of trade and investment activity. Increasingly, free trade agreements serve as economic constitutions that shape global economic activity, enhancing the power of transnational corporations and limiting the authority of governments. In Canada, the regulatory powers of both federal and provincial governments are being affected.

Despite this, the development of international trade agreements - from the U.S.-Canada FTA, to NAFTA and the Uruguay Round of the GATT - has proceeded without serious consideration of their environmental impacts. While discussions of reform have commenced at the GATT and the OECD, these talks have been dominated by the view that environmental regulation is potentially a new form of trade protectionism. This study approaches these issues from a different viewpoint, building on the growing worldwide awareness of the ways in which international trade agreements and disputes affect green strategies and the environment.

Globalization poses serious challenges to the authority of governments, affecting their ability to protect the environment. Market-driven integration and deregulation generally weaken governments' influence. This is especially so where international harmonization means moving to the lowest common denominator. By facilitating the movement of corporations to low-standards regions, integration effectively caps existing environmental and social standards and creates pressure for all jurisdictions to move to lower levels.

The assertion that trade and investment liberalization necessarily benefit the environment by increasing economic growth, making possible greater investment in environmental protection, is overly simplistic. Canada's experience under the FTA does not confirm this view. Free-trade related restructuring has devastated Canadian industry, especially the manufacturing sector, undercutting the tax base and forcing program cuts. Likewise, it is far from certain that NAFTA will increase economic growth, sustainable or otherwise, in Canada. Even if trade expansion fuels economic growth, there are no mechanisms in place to ensure the appropriation of resources for environmental purposes.

The FTA and NAFTA entrench globalization, thereby reinforcing its worst effects. These trade agreements handcuff present or future governments seeking to respond creatively to serious ecological problems. This loss of policy flexibility undermines the ability to reverse unsustainable economic trends.

The proposed NAFTA is more than an expansion of the FTA to include Mexico. It is an extensive renegotiation of the bilateral agreement, with significant new additions including intellectual property rights. NAFTA perpetuates the environmental problems of the FTA, while creating new ones. The NAFTA debate has again thrown into sharp relief the environmental shortcomings of the FTA, rekindling public controversy.

NAFTA removes or frustrates many industrial policy tools which might promote sustainability. These include domestic processing of resources, strengthening of supply management approaches to agricultural production, measures to promote green industries or regional development, and price and tax policies to internalize environmental costs.

The agreement reinforces resource conservation problems that flow from the requirements of National

Treatment, export taxes, the "proportionality clause," and trade panel decisions under GATT and the FTA. These barriers to sound conservation policies affect all Canadian resources, including water.

In contrast to current Canadian and Ontario practices, NAFTA establishes a new approach to environmental standard-setting. Many standards are to be set by unaccountable international bodies, with no provision for public participation in the standard-setting processes. The rights of national and provincial governments to set more stringent standards are qualified: NAFTA codifies tests previously used by trade panels to nullify environmental standards.

Neither the FTA nor NAFTA prevent countries from lowering environmental standards or enforcement in order to attract investment. On the contrary, there is mounting evidence that the enhanced capital mobility provisions are causing both actual and threatened diversion of production and investment from Ontario, and perhaps elsewhere in Canada, to jurisdictions in North America where environmental (and other) standards and their enforcement is weaker. This in turn is putting greater pressure on Canadian governments to cap and/or weaken various environmental regulations. This pressure will most likely intensify if the proposed NAFTA is implemented.

The Uruguay Round has moved into waters previously uncharted by the GATT. GATT officials insist that the Parties do not intend to deal with environmental issues in the final text. However, the draft Final Act of the GATT Uruguay Round has important environmental protection and natural resource dimensions. These include proposed multilateral approaches to resource management policy, limits on restriction of resource imports and exports, the development of a powerful new Multilateral Trade Organization, new dispute resolution rules and stronger enforcement, an enhanced role for international standard-setting bodies, more binding enforcement on subnational governments, and the codification of a broad range of domestic policies.

The official effort to exclude environmental issues does not mean the environment or environmental policies will be unaffected. It merely means that there will be no safeguards to ensure that the trade and investment rules do not undermine environmental protection strategies. This represents a lost opportunity to develop an international trade regime that protects and supports environmental measures. Canadian governments would find allies and gather public support if they pushed now for environmental renewal of international trade rules and institutions. As the Ontario Round Table on the Environment and the Economy recognised, it is better to anticipate and prevent environmental problems, rather than trying to react and fix them after they occur.

Increasingly, environmental measures are likely to be caught up in trade remedy and dispute settlement cases. The U.S. is Canada's largest trading partner and certain American trade actions have hurt Canadian environmental programs. Because U.S. trade law is ad hoc and discretionary, it is impractical to deliver pollution abatement and other environmental control programs in a manner defensible under U.S. trade law. Periodic trade remedy cases involving environmental programs are unavoidable.

To date, no international trade agreement, including the FTA, NAFTA, and the GATT, protects environmental subsidies from challenge as non-tariff trade barriers. By contrast, current trade rules permit "indirect subsidies" resulting from non-existent or poorly-enforced environmental standards. This anomaly points to a serious imbalance in the current international trade regime. Until international trade rules are reformed to incorporate environmental protection, governments must adapt to these constraints without diminishing their commitment to environmentally sustainable economic development. Effective environmental programs must be maintained and defended when challenged as non-tariff trade barriers.

Canada's objective in entering into free trade talks with the U.S. was to gain secure market access, especially for exports that have been repeatedly subject to U.S. countervail. The FTA failed to protect Canadian exporters from such actions. Each country can continue to apply countervailing and antidumping laws to imports from the other country. The trade deal fell short of Canada's goals by failing to establish new disciplinary standards on the use of trade remedy legislation or common rules on allowable subsidies.

Not only did the FTA fail to secure market access, it prejudiced Canada's ability to defend environmental measures from challenge as unfair trade barriers. In cases involving alleged subsidies of Canadian exports, Canada is constrained by a dispute settlement process based on U.S. trade laws. This unbalanced process can have disturbing implications for the environment, as demonstrated by the softwood lumber panel's decision to uphold the U.S. Department of Commerce finding that log export controls are a countervailable subsidy. The decision calls into question the value of the FTA in curbing U.S. trade remedy actions and casts a shadow over resource conservation measures.

The possible environmental effects of NAFTA can be categorized as follows:

1) Shifts in the pollution intensity of Ontario production.
2) Changes in the level and enforcement of Ontario's environmental regulations.
3) Overall pollution changes as a result of investment shifts.
4) New cross border pollution patterns.
5) Changes in the rate of depletion of Ontario's exhaustible natural resources.

The input-output analysis (Chapter 8), which looks at potential shifts in the pollution intensity of Ontario production, suggests increased short-term environmental impacts, particularly in atmospheric emissions and energy use from increased resource-based production and export under NAFTA. The cumulative effect of this change in output under NAFTA, especially if Ontario's growth increases during the second half of the decade, would imply important adverse environmental impacts.

The input-output model is limited by the fact that the coefficients which determine the pollution impact of changes in output are fixed. In the real world these coefficients do change over time. For example, one possible impact of NAFTA is downward pressure on environmental regulations in Ontario. This will alter the technological coefficients, further increasing the pollution intensity of production beyond that which would be determined by this fixed coefficient model. Another possible NAFTA effect is that with a generally weakened industrial base, government will have fewer financial resources to devote to environmental protection or the development of green industry. On the other hand, to the extent that NAFTA leads to investment shifts out of Ontario, particularly in so called dirty industry sectors, it will reduce the pollution intensity of Ontario production. However, the resulting transborder air pollution will in turn negate (at least partially) this "positive" effect.

None of these environmental effects nor their interaction are captured by this model.

Finally, although the model can say something about the pollution effects of increased resource exploitation under NAFTA, for example the pollution effects of mineral smelting, it says nothing about another important dimension of environmental impacts, namely the accelerated depletion of Ontario's natural capital which is likely to occur under NAFTA and which constitutes an environmentally unsustainable development path.

International trade agreements are expanding their reach beyond traditional trade matters such as tariffs. At the same time, governments are responding to public demand for more effective environmental regulation and greater sustainability. It is not surprising that these two imperatives will often conflict. In an increasingly globalized economy, more and more government measures, including environmental regulations, can be alleged to affect international trade or investment.

However, there is a clear risk that international trade agreements, by focusing narrowly on trade expansion and investment liberalization, will undermine environmental regulation and preempt new initiatives. Recent international trade agreements, such as the FTA and NAFTA, legally entrench unrestrained trade and investment, relegating environmental considerations to a lesser role.

NAFTA is often portrayed as a step forward environmentally, since it is the first international trade agreement to explicitly incorporate environmental criteria. Yet NAFTA, like the FTA before it, also intrudes into matters crucial to environmental protection and resource conservation strategies that were largely unaffected by previous international trade agreements. The expansion of the application of national treatment to include investment, services, and exports, in addition to the customary GATT focus on imports is one example. Another is the prohibition of export taxes, a GATT-consistent instrument previously available for conservation purposes. Even NAFTA's provisions that permit governments to adopt higher standards, are exceptions to the overall thrust toward harmonization and actually qualify and limit rights now fully enjoyed by governments.

Green strategies have already lost ground in Canada under a free trade regime and can be expected to lose further if NAFTA is ratified. Cumulatively, the problems posed by international trade agreements such as NAFTA are worrisome. They justify a broad exemption or waiver for legitimate environmental measures, given the lack of effective international rules.

Even though they are not parties to the NAFTA, provincial governments will be compelled to comply with its provisions. Denied direct recourse to the dispute settlement process, they will still be subject to panel rulings. Provincial regulatory standards will be open to challenge and will be required to clear a set of NAFTA-created hurdles. NAFTA shifts power away from the provinces, undermining their capabilities to properly manage resources and protect the environment.

NAFTA expressly reduces the capacity of governments at all levels to implement policies which promote sustainable development within their jurisdictions. The more power is ceded, the less able are governments to fulfill their responsibilities to their electors, the greater is the erosion of their political legitimacy.

A new international regime that satisfactorily balances trade and investment liberalization and environmental sustainability must be developed. Until then, governments will need to maintain the policy flexibility and sovereignty necessary for developing effective programs. Provincial governments and the public will have to defend their own environmental programs and standards in the face of trade challenges, while pressing the federal government for more effective international diplomacy. Otherwise, environmental concerns are likely to be overwhelmed by the expanding trade and investment imperatives of international trade agreements.

References

An Act to implement the North American Free Trade Agreement, Bill C-115, House of Commons, Ottawa, introduced February 25, 1993.

Binational Secretariat, FTA, Canadian Section. (1991, November 5). Status Report of Cases. [Mimeo].

Business Week, Jan 13, 1992.

Canada, Government of, et. al. (1992). Joint Case Brief in the Matter of Certain Softwood Lumber Products from Canada. U.S. DOC. Washington, D.C. April 21.

Canada-US Free Trade Agreement Implementation Act, RS. 1988, Chap. C-10.6

Canada-US Trade Commission Panel: In the Matter of Canada's Landing Requirement for Pacific Coast Salmon and Herring, 1989. (Salmon and Herring case)

Canada-US Free Trade Agreement, Minister of Supply and Services Canada, 1988.

Canadian Centre for Policy Alternatives (CCPA), Which Way for the Americas, Analysis of NAFTA Proposals and the Impact on Canada, Ottawa, 1992.

CCH International, North American Free Trade Agreement, Final Text, December 17, 1992.

Charnovitz, Steve, Reconsidering the Debate on "GATT and the Environment", (Paper prepared for the Ottawa Conference on International Trade and Sustainable Development, May 14, 1992).

Charnovitz, Steve, "Exploring the Environmental Exceptions in GATT Article XX", Journal of World Trade, Vol. 25, October 1991.

Corrosion Fittings v. Environmental Protection Agency, 947 F2d 1201 (5th Cir. 1991).

European Court of Justice. (1988). Re: Disposable Beer Cans: EC Commission vs. Denmark.

Federal Register (FR). (various years). Washington, D.C.

Financial Times, March 25, 1991.

GATT. (1992). Review of U.S. Trade Policies. Summary. Reprinted in Inside U.S. Trade March 13, 1992.

Inside U.S. Trade. (various years). Washington, D.C.

London Business School. (1991). The Danish Bottles Case.

Ontario. Ministry of Industry, Trade and Technology. The Question of Secure U.S. Market Access in the Canada-U.S. Free Trade Agreement. May 1988.

Ontario. Ministry of the Environment. Ernst and Young. "Study of the Ontario Environmental Protection Industry." June 1992.

Percy, Michael B. and Christian Yoder. (1987) The Softwood Lumber Dispute and Canada-U.S. Trade in Natural Resources. Halifax. Institute for Research on Public Policy.

Pest Control Products Regulations, Section 18, CRC c. 1253 as amended.

Rusk, James. "Green Concerns Colour Trade Disputes in the '90s." Globe and Mail. August 10, 1992. B1, B3.

Ritchie, Gordon. "The Bottom Line: A More Prosperous North America." Globe and Mail. August 21, 1992. A17.

Shrybman, Steven. "Trading Away the Environment." World Policy Journal. Winter 1991-92.

Thailand - Restrictions on Importation of and Internal Taxes on Cigarettes, GATT Doc. 375/200 (Thai Cigarette case).

United States-Canada Free-Trade Agreement Implementation Act of 1988, Public Law 100 - 449.

United States - Measures Affecting Alcoholic and Malt Beverages, GATT Doc. DS23/R, February 1992 (US Beer case).

United States - Restrictions on Imports of Tuna, GATT Doc. DS21/R. 3rd September 1991 (Tuna-Dolphin case).

U.S. DOC. (1992). Certain Softwood Lumber Products from Canada; Final Affirmative Countervailing Duty Determination. FR, May 28. Washington, D.C.

U.S. DOC. (1990). U.S.-Canada Memorandum of Understanding on Trade in Softwood Lumber with Amendments. Washington, D.C.

U.S. DOC (1989). Countervailing Duties; Notice of Proposed Rulemaking and Request for Public Comments. FR, May 31. Washington, D.C.

U.S. DOC. (1983). Final negative Countervailing Duty Determinations; Certain Softwood Lumber Products from Canada. FR 48 24159, 24167.

U.S. ITC. (1986). Softwood Lumber from Canada (preliminary). U.S. ITC publication 1874. Washington, D.C.

U.S. ITC. (1991). Softwood Lumber from Canada (preliminary). U.S. ITC publication 2468. Washington, D.C.

Wirth, David A.: Statement and Testimony before the House Committee on Science, Space, and Technology, September 30, 1992.

APPENDIX A

International Bodies Named as Standard Setters in NAFTA:

A Selection

CODEX ALIMENTARIUS COMMISSION

Joint FAO/WHO Food Standards Programme
Via delle Terme di Caracalla
1-00100 Rome ITALY

The purpose of the following appendix is to provide a description of the Codex Alimentarius Commission (CAC) with respect to its organization, structure and goals and objectives. This description is divided into the following sections:
1) a brief history of the Codex Alimentarious Commission,
2) a summary of the overall goals and functions of the Codex,
3) a brief description of the Commission's structure,
4) a summary of the procedural standard setting process of the Codex, and
5) a list of member country representatives and organizations.

I Brief History and Introduction to the Codex Aliemtarius Commission:

The Codex is an intergovernmental subsidiary body of FAO and WHO. Following an international FAO/WHO Conference on Food Standards held in Geneva in 1962, the CAC was established to implement the Joint FAO/WHO Food Standards Programme. The Commission has held 19 plenary sessions alternatively at FAO and WHO headquarters in Rome and Geneva respectively. Its membership currently stands at 142 member countries, including Canada, the United States and Mexico. The CAC reports to the Directors General of its parent organizations FAO and WHO. According to Codex, the purpose of the programme is to

1) protect the health of consumers and to ensure fair practices in the food trade;
2) to promote coordination of all food standards work undertaken by international governmental and non-governmental organizations;
3) to determine priorities and initiate and guide the preparation of draft standards through and with appropriate organizations; and
4) to finalize standards and after acceptance by governments publish them in a Codex Alimentarius either as regional or world-wide standards.

II Summary of booklet "Introducing Codex Alimentarius"

[NOTE: This booklet was prepared by the CAC to give an overview what the Commission does. Although the document does give a good summary of the Commission, it is a promotional piece that represents the organization's view on food standards.]

General Overview of the Main Objectives of Codex:

Codex is a product of international efforts to increase world trade by reducing tariff barriers. Codex's role is to eliminate differing national food regulations which are considered non-tariff barriers or obstacles to international trade in food. According to the CAC, in a free trade world it is untenable for nations to devise national food standards without regard to the views of its trading partners. Thus world trade in foods is to be facilitated by formulating internationally accepted standards. These standards are to promote consumer protection and fair practices in food trade; objectives which are considered "mutually dependent and mutually supportive." According to the CAC, it actually "develops the ideas of governments, consumers, producers, manufacturers; indeed the ideas of everyone concerned with virtually every conceivable aspect of the food supply." The Codex is in fact an extremely influential and far reaching organization. With 142 countries as members it is the only truly world-wide intergovernmental body working on food standards.

Codex acknowledges that differing views exist on the priority of risk factors with respect to food additives, pesticides, food hygiene, etc., and states that these differences must be assessed on a risk assessment basis. The objective is to find a balance between the benefits and risks of setting certain standards in order to achieve international harmonization. Members are encouraged to harmonize their differing standards which are generally aimed at providing wholesome food which is acceptable to and affordable for the consumer.

Codex holds that member countries have a moral obligation to implement into their national standards Codex standards since these standards were devised by the member countries themselves. It admits that its standards are influenced by the scientific and economic information provided by trade and industry representatives on the Commission. Codex contends, however, that industry involvement is justified since willing compliance will more likely follow if those concerned with producing and consuming food have been adequately consulted and their views taken into account. Thus, not only are industry and trade interests involved with Codex, so too are consumer organizations and associations.(NOTE: See the list of Representatives and International Organizations above where no identifiable consumer group is listed.) CAC's rules permit these bodies, which have "observer status", to be included in the Codex standard setting process. That process aims to concentrate international expert opinion on almost every aspect of food production and control of its quality and safety in the following areas: commodities, pesticides, contaminants, residues of veterinary drugs and hormones, industrial practices, food additives, avoidance of contamination, etc.

Codex Standards

The Commission encourages its member states to embody Codex standards in their national laws.

According to the CAC, the advantage of adopting Codex standards is that if both parties- buyer and seller- agree to conform to Codex all essential food standard measures are covered. The goal is to achieve conformity among the national regulatory bodies by encouraging them to set national standards according to the internationally accepted framework of Codex. This process removes any arbitrariness in standard setting and eliminates non-tariff barriers to trade. Otherwise, the public, according to Codex, will be poorly served if nations continue with inconsistent and variable food standards. Further, the CAC holds that its internationally devised standard setting process establishes higher food standards that find easy acceptance in world markets.

The Commission also holds that consumer protection with respect to food has its limits. According to the CAC the protection of the consumer interest in one country may be a damaging or unfair practice in another nation. For example, Codex states that a total ban on pesticide residues by an importing country might mean economic ruin to a producer. To avoid this result, the CAC suggests that a risk/benefit analysis be used when setting food standards. Such an analysis is supposedly the best means of ensuring consumer protection and higher quality foods since conformity with Codex standards results in both food quality control and extended international trading markets.

Consumer Information and Food Labelling

Codex states that "too much information does not inform; it confuses." Codex's General Standard on the Labelling of Pre-Packaged Food is designed to set an "optimal standard" which informs the consumers on "points of interest". A nation is not to be prohibited from voluntarily providing additional information. However, a nation must not impose more severe national labelling requirements that would amount to a non-tariff barrier.

Food Additives, Contaminants, Pesticide Residues and Food Hygiene

Codex states that any Codex additive that is listed as permissible has been considered by "independent, respected experts who have provided a consensus view which can be accepted with confidence." These experts attempt to set the lowest levels regularly achievable where "good manufacturing practice" is followed with respect to substances such as lead, cadmium, PCBs, radiation, etc. In no case, states the Commission, are the levels of these contaminants high enough to be of any health risk.

There is also a Codex Committee on Pesticide Residues, in conjunction with the work of the FAO/WHO Joint Committee of Experts on Pesticide Residues, which has established lists of over 2000 maximum pesticide residue limits which should be authorized for use. These maximum residue limits are tolerance levels based on what the Committee of Experts has suggested as good agriculture practice internationally, with consideration given to the differing climatic conditions and pest problems among nations. Moreover, in the opinion of Codex,these residue limits represent a consensus of international opinion as to what are safe and practical residue levels. If a country conforms with Codex pesticide residue levels, the Commission strongly recommends that the food should be admitted.

The Commission has also issued Codes of Hygienic Practice covering the premises, equipment and handling procedures for foods. Its international guidelines on food hygiene replaces the often excessive emphasis governments place on numerical data which could "lead to the needless rejection of food without increasing consumer protection."

Food Quality Verification

The Codex Committee on Methods of Analysis and Sampling is responsible for establishing homogeneity between the food tested and the actual package that was sold to the consumer. The committee establishes methods which may be used as agreed procedures by producers, processors, quality examiners, traders, and enforcement agencies world-wide. The three criteria that govern the committee's work:

i) defining what is being measured and the units of measure;
ii) describing how to measure the food product; and
iii) specifying how to interpret the results whether or not the sample complies with the Codex standard.

The goal, according to the Commission, is to have two different organizations or people trade on mutually understood terms. This is attainable since Codex standards are arrived at upon agreed sampling procedures among member states. The CAC maintains that this procedure is of great assistance to less developed or smaller countries which lack the resources to implement standards. By adopting Codex standards those nations can enter and expand their food markets in international trade. Thus, by conforming to Codex standards food can be sold world-wide with the assurance that a food control system is in place that ensures the safety, wholesomeness and good quality of food.

The overall goal of Codex is to encourage member states to adopt Codex food standards as part of their national food regulation regime. By adopting Codex standards, food producers and traders can easily access the current state of national food regulations of a particular country. According to the Commission, with national food standards conforming to Codex an international food control system is formed that will serve to improve both the trade of food and consumer protection.

III Structure of the Codex Alimentarius Commission

1) it holds a general session every 18 to 24 months and since its inception the CAC has held nineteen sessions (as of July, 1991);

2) representatives elect an Executive Committee, consisting of a Chairperson, 3 Vice-Chair and 6 members, one each from Africa, Asia, Europe, Latin America, North America, and the South-West Pacific;

3) it is staffed by 6 professional officers, 2 documents officers, and 9 general secretarial staff;

4) The Commission's annual budget of $1,500,000 is administered by FAO on behalf of FAO and WHO with additional funding from the member governments hosting Codex Committees); and

5) Codex has adopted its own Rules of Procedure and has established working procedures for the implementation of the Joint FAO/WHO Food Standards Programme, including a procedure for the Elaboration of World-wide or Regional Standards, General Principles for the Codex Alimentarius, and a Format for Commodity Standards.

Codex is comprised of over 30 subsidiary bodies which are grouped pursuant to established procedural rules:

A) Joint FAO/WHO Committee of Government Experts on the Code of Principles concerning Milk and Milk Products(Rule IX 1(a);

B) World Wide General Subject Codex Committees(committees receive advice from other bodies which are hosted by member countries)(Rule IX 1(b) 1):

. Joint FAO/WHO Expert Committee on Food Additives and Contaminants
 advice from Residues of Veterinary Drugs in Food(USA)

. Joint FAO/IAEA/WHO Expert Committee on Food Irradiation
 advice from Food Additives(Netherlands), General Principles(France)

. Joint FAO/WHO Meeting on Pesticide Residues
 advice from Pesticide Residues(Netherlands), Food Labelling(Canada), Analysis and Sampling(Hungary), Food Hygiene(USA)

C) World Wide Commodity Codex Committees

. Cocoa Products and Chocolate (Switzerland)
. Sugars (UK)
. Processed Fruits and Vegetables (USA)
. Fats and Oils (UK)
. Edible Ices (Sweden)
. Soups and Broths (Switzerland)
. Nutrition and Foods for Special Dietary Uses (Germany)
. Fish and Fishery Products (Norway)
. Vegetable Proteins (Canada)
. Meat (Germany)
. Meat Hygiene (New Zealand)
. Processed Meat and Poultry Products (Denmark)
. Tropical Fresh Fruits and Vegetables (Mexico)
. Cereals, Pulses and Legumes (UDS)
. Natural Mineral Waters (Switzerland)

D) Regional Coordinating Committees (Rule IX 1(b)2

. FAO/WHO Coordinating Committee for Africa

- FAO/WHO Coordinating Committee for Asia
- FAO/WHO Coordinating Committee for Europe
- FAO/WHO Coordinating Committee for Latin America and the Caribbean
- FAO/WHO Coordinating Committee for North America and the South-West Pacific

E) Joint UNECE/Codex Alimentarius Groups of Experts

- Joint ECE/Codex Alimentarius Group of Experts on Standardization of Fruit Juices

- Joint ECE/Codex Alimentarius Group of Experts on Standardization of Quick Frozen Foods

IV Codex Alimentarius Commission Procedural Manual- Seventh Edition 1989

The Commission has adopted its own Rules of Procedure and has established working procedures for the implementation of the Joint FAO/WHO Food Standards Programme, which includes a Procedure for the Elaboration of World-Wide or Regional Standards, General Principles for the Codex Alimentarius, and a Format for Commodity Standards. The following material will provide a brief description of the this standard setting procedure that the Commission has adopted. This information is useful in determining how the Commission sets food standards and who participates in the standard setting process. Since both the Uruguay Round of GATT and the NAFTA negotiations are proposing the adoption of Codex food standards, it will be of interest to compare CAC's standard setting process to the one used by Health and Welfare Canada and Agriculture Canada.

Rules of Procedure of The CAC

Rule I- Membership

Membership is open to all Member Nations and Associate Members of FAO and/or WHO, which have notified the Director-General of FAO or of WHO that they wish to be members of the Commission. Each member nation appoints its own representatives to sit on the Commission. The manual does not describe how nations become members of CAC nor does it indicate what process is used by member nations to appoint representatives. As is evident from the representative lists set out above the appointed representatives for Canada and the United States are either bureaucrats or industry people.

Rule II- Officers

The Commission elects a Chair and three Vice-chair from among the country representatives at each session and the officers hold office from the end of the session at which they were elected until the end of the following regular session. These officers may only serve two consecutive terms if re-elected. The Commission, on the advice of the majority of the members which constitute a region or group of countries, may appoint a Coordinator from among the delegates for the six geographic regions: Africa, Asia, Europe, Latin America and the Caribbean, North America, and South-West Pacific. The Coordinators are to help the region or group of countries in the preparation of draft standards for submission to CAC. Further, the Directors-General of FAO and WHO are to appoint from their staffs a Secretary of the Commission, who, with the chair and vice-chair, is to ensure the Commission's work and duties are performed.

Rule III- Executive Committee

The Executive Committee consists of the Chair and Vice-Chair together with six other members, one each from the six geographic regions. As the Commission's executive organ, the Executive Committee may make proposals to the Commission regarding the Commission's work and general orientation, its study of special problems and to help implement the food standards programme as approved by the Commission.

Rule IV- Sessions

The Commission attempts to hold one regular session each year, but in practice sessions have been held every 18 to 24 months. Meetings of the Commission are to be held in "public", unless the Commission decides otherwise. What is exactly meant by "public" is not explained as the manual does not give any indication on who the Commission considers constitutes this "public".

Rule V- Agenda

The Directors-General of FAO and WHO, after consulting with the Commission's chair or Executive Committee, prepares a provisional agenda for each session which in turn needs a two-thirds majority in order to be adopted by the Commission.

Rule VI- Voting and Procedures

Each of member of the Commission has one vote and a simple majority is required for the Commission's decisions to be valid. A majority of the members of the Commission constituting a given region or a group of countries may request that a standard that is primarily intended for that region or group be elaborated. Only members of that region may vote on the elaboration of this particular standard. Elections are generally decided by secret ballot.

Rule VII- Observers

Any member nation or associate member of FAO or WHO which is not a member of the Commission but has a special interest in its work, may attend sessions of the Commission and its subsidiary bodies as an observer. These observers may make submissions to the Commission and participate in its discussions but cannot vote. Observer status may also be extended to nations which are not FAO or WHO members but are members of the United Nations, and to intergovernmental and international non-governmental organizations. To date, as is evident from the member organizations listed below, the vast majority of these non-governmental organizations represent corporate interests.

Rule VIII- Records and Reports

At each session the Commission approves a report embodying its views, recommendations and conclusions which is circulated to members of the Commission, to other countries and to organizations that were represented at the session. In addition, the Directors-General of FAO and WHO may request members of the Commission to supply the Commission with information on action taken on the basis of recommendations made by the Commission.

Rule IX- Subsidiary Bodies

Subsidiary bodies in the form of Codex Committees are established to prepare draft standards for submission to the Commission. Membership in these subsidiary bodies consists of either Commission members who have notified the Directors-General of FAO or WHO of their desire to be considered as members or of selected members designated by the Commission. Representatives of members of the subsidiary bodies must be experts in the fields of the respective subsidiary bodies. Who chooses these expert representatives is not explained in the manual. Members who are responsible for appointing chairs of subsidiary bodies are designated at each session by the Commission. All other officers of subsidiary bodies are elected by the body concerned.

Rule X- Elaboration of Standards

The Commission establishes the procedures for the elaboration of world-wide standards and of standards for a given region or group of countries.

Rule XI- Budget and Expenses

The rule simply describes how operating costs of the Commission and its subsidiary bodies will be incurred.

Rule XII- Languages

The rule stipulates what languages may be used during the sessions of the Commission.

Rule XIII- Amendments and Suspension of Rules

Amendments to these rules require a two-thirds majority vote from the Commission members.

Rule XIV- Entry into Force

These rules of procedure come into force upon approval by the Directors-General of FAO and WHO.

General Principles of the Codex Alimentarius

Purpose of the Codex Alimentarius

The Codex Alimentarius is a collection of internationally adopted food standards presented in a uniform manner. Its supposed aim is to protect consumer health and to ensure fair practices in the food trade by promoting harmonization in order to facilitate international trade. In achieving harmonization, Codex standards are required to ensure that consumers receive a "sound, wholesome food product free from adulteration, correctly labelled and presented."

Scope of the Codex Alimentarius

The Codex Alimentarius includes standards for all the principal foods, whether processed, semi-processed or raw, for distribution to the consumer. These standards are set with respect to food hygiene, food additives, pesticide residues, contaminants, labelling and presentation, and methods of analysis and sampling.

Acceptance of Codex Commodity Standards

A Codex standard may be accepted by a country in accordance with the country's legal, administrative and regulatory procedures in respect of distribution of the product concerned, whether imported or home-produced, within its territorial jurisdiction in the following ways:

i) Full Acceptance- the country concerned will ensure that a product to which the Codex standard applies will be permitted to be distributed freely within its territorial jurisdiction under the name and description outlined in the standard, provided that it complies with all the relevant requirements of the standard. The distribution of any products conforming with the Codex standard is not to be hindered by any legal or administrative provisions of the member country relating to the health of the consumer except for considerations of human, plant or animal health which are not specifically dealt with in the standard.

ii) Target Acceptance- A member country indicates its intention to accept the standard after a stated number of years. In addition, the country agrees not to restrict within its jurisdiction the distribution of products that conform with the particular Codex standard by any legal or administrative provisions relating to the health of the consumer except for considerations of human, plant or animal health which are not specifically dealt with in the standard.

iii) Acceptance with Specified Deviations-
A member country gives acceptance to the standard with the exception of deviations that are specified in its declaration of acceptance. Thus a product which complies with the standard as qualified by these deviations is to be distributed freely within the jurisdiction of the member country. The country must give reasons for these deviations and indicate whether it expects to give full acceptance to the standard. If a country does not accept a particular Codex standard, it is to indicate whether products conforming to this standard may still be distributed within its jurisdiction.

The country is also to give reasons as to why its standard requirements differ from the Codex standard. If a country does accept a Codex standard it is responsible for the uniform and impartial application of the provisions of the standard within its jurisdiction. In addition, the country should offer advice and guidance to exporters and processors of products for export to promote compliance with the requirements of importing countries which have accepted a Codex standard.

Acceptance of Codex General Standards

The requirements are the same as those stated above.

Acceptance of Codex Maximum Limits for Residues of Pesticides and Veterinary Drugs in Food

A member country may accept a Codex maximum limit for residues of pesticides or veterinary drugs in accordance with its established regulatory system for the distribution of home-produced and imported food within its territorial jurisdiction. If a country gives full acceptance to the Codex maximum limit it must ensure that the food to which the limit applies complies with it.

If the food complies with the Codex maximum limit its distribution must not be hindered by any legal or administrative provisions of the member country. Once a country accepts the limit it is to offer advice and guidance to exporters and processors of the food on how to comply with the requirements of importing countries which have accepted a Codex maximum limit.

Definitions of Several Relevant Terms of the Codex Alimentarius

Good Agricultural Practice in the Use of Pesticides and Food Additives(GAP)

GAP is an attempt to establish nationally authorized safe uses of pesticides in order to have a residue limit which is the smallest amount practicable. Authorized safe uses are determined at the national level and include nationally registered or recommended uses, which, according to the Commission, take into account public and occupational health and environmental safety considerations. With respect to food additives, GAP is to ensure the additive added to food does not exceed the amount reasonably required to accomplish its purpose.

Codex Maximum Limit for Pesticide Residues(MRLP)

The MRLP is the maximum concentration of a pesticide residue (expressed as mg/kg), recommended by the Codex to be legally permitted in or on food commodities and animal feeds. MRLs are based on GAP data and foods derived from commodities that comply with the respective MRLs and are considered to be toxicologically acceptable. Codex MRLs are arrived at from estimations made by the Joint FAO/WHO Meeting on Pesticide Residues(JMPR) using the following criteria:

a) toxicological assessment of the pesticide and its residue; and
b) review of data from supervised trials and uses of the pesticide including those reflecting national GAP(i.e. the highest nationally recommended, authorized or registered uses). In order to accommodate variations in national pest control requirements, Codex MRLs take into account the higher levels shown to arise in supervised trial use, which are considered to represent effective pest

control practices.

Various dietary residue intake estimates both at the national and international level are compared with Codex's Acceptable Daily Intake level (ADI) to indicate that foods complying with the Codex MRLs are safe for human consumption in the view of Codex.

Codex Maximum Limit for Residues of Veterinary Drugs (MRLVD)

The MRLVD is the maximum concentration of residue resulting from the use of a veterinary drug(expressed in mg/kg) that is recommended by the Codex to be legally permitted or recognized as acceptable in or on a food. It is based on the type and amount of residue considered to be without any toxicological hazard for human health as expressed by the ADI. When establishing a MRL, consideration is also given to residues that occur in food of plant origin and/or the environment. The MRL may also be reduced in order to be consistent with good practices in the use of veterinary drugs.

Procedure For the Elaboration of Codex Standards and Codes of Practice, Codex Maximum Limits For Pesticide Residues, and Residues of Veterinary Drugs, Codex Advisory Specifications for the Identity and Purity of Food Additives

Introduction

The procedure for the elaboration of Codex standards is as follows:

1. first the Commission decides that a standard should be elaborated and also which subsidiary body or other body should undertake the work;
2. the Secretariat then arranges for the preparation of a "proposed draft standard" which is circulated for comment to the governments of the member countries;

3. the standard is then reevaluated in light of government comments by the designated subsidiary body which then may present the text to the Codex as a "draft standard";

4. if the Codex adopts the "draft standard" it is sent to the member country governments for further comments and again, the subsidiary body reviews the standard in light of these comments; and finally,

5. the Codex then reconsiders the draft and may adopt it as a "Codex standard". The standard is published and is sent to the member nations' governments for acceptance.

Guidelines For the Acceptance Procedure for Codex Standards

Acceptance of Codex Standards

The Codex Alimentarius is the record of Codex Standards and of acceptances or other notifications by Member Countries or international organizations. It is revised regularly to take account of new or amended standards. The Commission stresses that governments of member nations should aim to adopt Codex standards within their national regulatory system. If full acceptance is not given, member countries are requested to provide reasons in order that the information in the Codex Alimentarius reflects the most recent position(s) of each country. Further, countries are encouraged to notify the Codex Secretariat when national laws or practices with respect to food standards are being changed.

The Codex Alimentarius Not to be a Substitute for National Legislation

The Codex Alimentarius is a comparative record of the substantive similarities and differences between Codex Standards and corresponding national legislation. The Commission expects governments of member countries to indicate which provisions of the Codex Standard are identical to, similar to or different from, the related national requirements. The Commission supports (at least on paper) that national governments implement their own food standards legislation, but the Commission also expects member countries to avoid general statements that national laws must be complied with.

Comparing Codex Standards with National Laws

There are Codex standards which are identical with national laws, a result the Commission strongly supports. According to the Commission, however, difficulties arise when national laws are in a different form, contain different figures or no figures at all, or no standard exists in a particular country with respect to the Codex Standard. Codex urges that the responsible government authority do its best to overcome such difficulties/differences in order to implement the Codex Standard.

Presumptive Standards

Member Countries are encouraged by Codex to regard a Codex Standard as a presumptive standard in cases where there is no corresponding standard in that country. The Commission's justification for regarding the Codex Standard as a presumptive standard is the fact that it is the minimum standard for a food and thus, will "ensure a sound, wholesome product free from adulteration, correctly labelled and presented." By minimum, the Commission means the level of quality and soundness of a product arrived at by consensus among the member nations and what they have agreed to as appropriate food standards for trade internationally and nationally.

Format and Content of Codex Standards:

If national laws with respect to food standards are different, the Commission requires that the differences be reported. This requirement is consistent with the Codex goal of achieving international food standardization by harmonizing to the greatest extent possible national food standard policies. Differences or discrepancies among national standards are to kept to a minimum.

List of Subsidiary Bodies of the CAC

A. Subsidiary Body Under Rule IX.1(a)

Joint FAO/WHO Committee of Government Experts on the Code of Principles Concerning Milk and Milk Products

The Committee is responsible to consider, elaborate on and pass all codes and standards concerning milk and milk products pursuant to the Procedure for the Elaboration of International Standards for Milk Products. These standards are subject to review by the Commission which ultimately decides whether the standard will be published in the Codex Alimentarius as a world-wide standard.

B. Subsidiary Bodies Under Rule IX.1(b)(i)

I World-wide Codex General Subject Committees:

[NOTE: The committees are dominated by industrialized nations.]

1) Codex Committee on Food Additives and Contaminants(Host Government: Netherlands)

The Committee is to establish permitted maximum levels for food additives and contaminants(including environmental contaminants) in specific food items and animal feeds.

2) Codex Committee on Food Hygiene(Host Government: US)

The Committee is to draft provisions on food hygiene applicable to all food and to evaluate specific hygiene problems assigned to it by the Codex.

3) Codex Committee on Food Labelling(Host Government: Canada)

The Committee is to draft provisions on labelling applicable to all foods and to evaluate specific labelling problems assigned to it by the Commission. The Committee is also to study problems associated with the advertisement of food with particular reference to misleading claims and descriptions.

4) Codex Committee on General Principles(Host Government: France)

This committee is responsible for the procedural and general matters of the Commission. It sets the General Principles which define the purpose and scope of the Codex Alimentarius and the nature of Codex standards. The committee also examines the economic impact statements submitted by governments concerning the possible implications for their economies in adopting Codex standards.

5) Codex Committee on Methods of Analysis and Sampling(Host Government: Germany, Hungary)

The committee considers, amends and endorses methods of analysis and sampling proposed by Codex committees, except for those committees which deal with residues of pesticides or veterinary drugs in food, food additives, and milk and milk products.

6) Codex Committee on Pesticide Residues(Host Government: Netherlands)

The committee is responsible for establishing the maximum limits for pesticide residues in foods and in animal feed in international trade. The committee also establishes maximum limits for environmental and industrial contaminants in food.

7) Codex Committee on Residues of Veterinary Drugs in Foods(Host Government: US)

The committee recommends maximum levels of residues of veterinary drugs in foods and sets the criteria for analytical methods used for the control of veterinary drug residues in foods.

II World-wide Codex Commodity Committees

1) Codex Committee on Cocoa Products and Chocolate(Host Government: Switzerland)

The committee is responsible for recommending standards for cocoa products and chocolate.

2) Codex Committee on Sugars(Host Government: United Kingdom)

The committee is responsible for recommending standards for sugars and sugar products.

3) Codex Committee on Processed Fruits and Vegetables(Host Government: US)

The committee is responsible for recommending standards for processed fruits and vegetables including dried and canned products.

4) Codex Committee on Fats and Oils (Host Government: United Kingdom)

The committee recommends world-wide standards for fats and oils of animal, vegetable and marine origin including margarine and olive oil.

5) Codex Committee on Meat (Host Government: Germany)

The committee recommends standards for the classification, description and grading of carcasses and cuts of beef, veal, mutton, lamb and pork.

6) Codex Committee on Meat Hygiene (Host Government: New Zealand)

The committee is to recommend meat hygiene standards, excluding poultry.

7) Codex Committee on Processed Meat and Poultry Products (Host Government: Denmark)

The committee recommends standards to the CAC for processed meat products, including packaged meat and processed poultry meat products.

8) Codex Committee on Fish and Fishery Products (Host Government: Norway)

It recommends standards for fresh, frozen or processed fish, crustaceans and molluscs.

9) Codex Committee on Nutrition and Foods for Special Dietary Uses (Host Government: Germany)

The committee develops guidelines, general principles and standards for foods for special dietary uses. The committee also advises the commodity and general subject Codex Committees on the nutritional aspects of food.

10) Codex Committee on Edible Ices (Host Government: Sweden)

The committee helps develop standards on all types of edible ices, including mixes and powders used for their manufacture.

11) Codex Committee on Soups and Broths (Host Government: Switzerland)

12) Codex Committee on Cereals, Pulses and Legumes (Host Government: US)

13) Codex Committee on Vegetable Proteins (Host Government: Canada)

The committee recommends standards for vegetable protein products that are derived from most plants that are used for human consumption. In addition, the committee develops guidelines on the use of vegetable protein products in the food supply system, on nutritional requirements and safety, and on labelling.

14) Codex Committee on Tropical Fresh Fruits and Vegetables (Host Government: Mexico)

The committee recommends standards for tropical fresh fruit and vegetables and consults with the UN/ECE Working Party on Standardization of Perishable Produce to ensure that no duplication of standards occurs.

III Regional Codex Committee (Europe)

Codex Committee on Natural Mineral Waters (Host Government: Switzerland)

C. Subsidiary Bodies Under Rule IX.1(b)(ii)

1. FAO/WHO Coordinating Committee for Africa

The committee's membership is composed of Commission members from Africa. It defines the problems and needs of the region concerning food standards and control, and promotes information exchange on regional regulatory initiatives as a means to improve the region's food control infrastructures. The committee also recommends to the CAC the development of standards for products of interest to the region and develops regional standards for food products that move almost exclusively in intra-regional trade.

2. FAO/WHO Coordinating Committee for Asia

The committee's membership is composed of Codex members from Asia. The committee performs the same functions as the Committee for Africa.

3. FAO/WHO Coordinating Committee for Europe

The committee's membership is composed of Codex members from Europe including Israel, Turkey and the CIS. The committee performs the same functions as the above committees.

4. FAO/WHO Coordinating Committee for Latin America and the Caribbean

The committee's membership is composed of Codex members from Latin America and the Caribbean. The committee performs the same functions as the above committees.

5. FAO/WHO Coordinating Committee for North America and the South-West Pacific

The committee's membership is composed of Codex members from the South-West Pacific and North America. The committee performs the same functions as the above committees.

V List of Member Country Representatives From Canada, the United States and Mexico at the 19th Session of the CAC- July 1991:

CANADA

B.J. Emberley, Director General
Inspection Branch, Fisheries and Oceans Canada

Robert G. De Valk, General Manager
Further Poultry Processors Association of Canada

James A. Drum, Vice-President Technical
Coca-Cola Limited

Katherine Gourlie, Director
Consumer Products Branch

Consumer and Corporate Affairs Canada

Leonard Ritter, Director
Bureau of Veterinary Drugs
Health Protection Branch
Health and Welfare Canada

Barry L. Smith, Chief
Food Regulatory, International and
Interagency Affairs Division
Food Directorate, Health Protection Branch
Health and Welfare Canada

Ian Sutherland, Director
Agri-Food Inspection Strategy
Agriculture Canada

Norman Tape, Director
Food Research Centre, Agriculture Canada

UNITED STATES

Lestor Crawford, Administrator
Food Safety and Inspection Service
U.S. Department of Agriculture

Catherine Adams, Assistant Administrator
Food Safety and Inspection Service
U.S. Department of Agriculture

Brian Bagnall, Vice President
Government and Industry Affairs
SmithKline Beecham Animal Health

David Berkowitz, Technology Transfer
and Coordination Staff
Food and Safety Inspection Service
U.S. Department of Agriculture

Thomas Billy, Deputy Director
Office of Trade and Industry Services
National Marine Fisheries Service

Kyd D. Brenner, Director of Public Affairs
Corn Refiners Association, Inc.

Consumer and Corporate Affairs Canada

Leonard Ritter, Director
Bureau of Veterinary Drugs
Health Protection Branch
Health and Welfare Canada

Barry L. Smith, Chief
Food Regulatory, International and
Interagency Affairs Division
Food Directorate, Health Protection Branch
Health and Welfare Canada

Ian Sutherland, Director
Agri-Food Inspection Strategy
Agriculture Canada

Norman Tape, Director
Food Research Centre, Agriculture Canada

UNITED STATES

Lestor Crawford, Administrator
Food Safety and Inspection Service
U.S. Department of Agriculture

Catherine Adams, Assistant Administrator
Food Safety and Inspection Service
U.S. Department of Agriculture

Brian Bagnall, Vice President
Government and Industry Affairs
SmithKline Beecham Animal Health

David Berkowitz, Technology Transfer
and Coordination Staff
Food and Safety Inspection Service
U.S. Department of Agriculture

Thomas Billy, Deputy Director
Office of Trade and Industry Services
National Marine Fisheries Service

Kyd D. Brenner, Director of Public Affairs
Corn Refiners Association, Inc.

Richard Carnevale, Assistant Deputy Administrator
Food Safety and Inspection Service
U.S. Department of Agriculture

William J. Cook, Consultant

C.W. Cooper, Assistant Director
Center for Food Safety and Applied Nutrition
Food and Drug Administration

Durward Dodgen, Division of Food Chemistry
and Technology
Center for Food Safety and Applied Nutrition
Food and Drug Administration

Charles Feldberg, Vice President
CPC International Inc.

Sherwin Gardner, Senior Vice President
Science and Technology
Grocery Manufacturers of America, Inc.

Gerald Guest, Director
Center for Veterinary Medicine
Food and Drug Administration

Ellen Haas, Executive Director
Public Voice for Food and Health Policy

John Halver, Professor Nutrition
National Academy of Science

Suzanne Heinen, Team Leader
International Trade Policy, FAS
U.S. Department of Agriculture

Jane Hopkins, Office of Pesticide Programs
International Staff, Environmental Protection Agency

Julia Howell, Manager
Regulatory Submissions, The Coca-Cola Company

Dr. Thad M. Jackson, Director of Issue Management
Nestle USA, Inc.

Maureen Kapustynski, Manager of External Affairs
Pepsi Cola International

Robert Lake, Director
Office of Compliance
Center for Food Safety and Applied Nutrition
Food and Drug Administration

Rodney Leonard, Community Nutrition Institute
USDA

Marshall Marcus, Director
Regulatory and Trade Affairs
Protein Technologies International
Ralston Purina Company

Allen W. Matthys, Director
Technical Regulatory Affairs
National Food Processors Association

Richard Mikita, Area Supervisor, Pacific Area
FSIS/International Programs/FPD
U.S. Department of Agriculture

Rhonda S. Nally, Executive Officer for Codex Alimentarius
Food Safety and Inspection Service
U.S. Department of Agriculture

Leslie G. Sarasin, Vice President of Government
Relations and Staff Counsel
American Frozen Food Institute

Lyle Sebranek, Director
Office of Food Safety and Technical Services
International Trade Policy, FAS
U.S. Department of Agriculture

James Serafino, Director
Scientific Relations, Kraft General Foods

Fred Shank, Director
Center for Food Safety and Applied, Nutrition
Food and Drug Administration

Steven N. Tanner, Assistant to the Administrator
for Technology
Federal Grain Inspection Service
U.S. Department of Agriculture

Raymond J. Tarleton, Executive Vice President
American Association of Cereal Chemists

Patty L. Woodall, Staff Assistant for Codex Alimentarius
Food Safety and Inspection Service
U.S. Department of Agriculture

MEXICO

Richard Gonzalez, Director de Normalizacion
Secretaria de Comercio y Fomento Industrial

Rosa Maria Galicia Cabrera, Jefe
Departamento de Normas de Calidad
Direccion General de Politica Agricola

Francisco Ramirez
Subdirector de Regulacion de Insumos y Servicios
Secretaria de Agricultura y Recursos Hidraulicos

Jamie Martinez Torres, Consejero
Representacion Permanente de Mexico ante la FAO

International Organizations Affiliated with CAC

Association of the Choclate, Biscuit and Confectionery Industries of the EEC

Association of Official Analytical Chemists

Consultation Mondiale de L'Industrie De La Santé Animale

Confédération Des Brasseurs Du Marché

Confederation of the Food and Drink Industries of the EEC

European Free Trade Association

European Vegetable Protein Federation

GATT

International Assembly of Grocery Manufacturers Associations

International Association of Bouillon and Soup Industries

International Dairy Federation

International Diabetic Federation

International Federation of Margarine Associations

International Federation of Wines and Spirits

International Hydrolized Protein

International Life Sciences Institute

International Organization of Consumers Unions

International Organisation of the Flavour Industry

NORTH AMERICAN PLANT PROTECTION ORGANIZATION [NAPPO]

c/o Agriculture Canada, Plant Protection Division
Attn: Mr. Bruce Hopper - Executive Secretary
Ottawa, Ontario, K1A 0C6
CANADA

Tel: (613) 995-7900

Brief History of NAPPO

Prior to the formation of North American Plant Protection Organization (NAPPO), Canada, the U.S. and Mexico had gathered on an informal bilateral basis to resolve issues related to similar plant pest problems among the three countries. Meetings between the U.S. and Mexico resulted in the formation of the Mexican/American Work Conference in the early 1950s. Similarly, Canadian and American officials met regularly to discuss "long-standing cooperation on programme[s] of mutual interest along their borders, including import/export regulations". As a result of bilateral cooperation between the countries, integrated quarantine and pest control measures developed.

Throughout the late 1960s and early 1970s, government officials conferred on the issue of developing a continental approach to plant protection. It was contended that a formal organization, composed of the three nations, would serve as a mechanism to implement "reasonable quarantine procedures" and allow for regular discussions on the occurrence of new pests, new survey and pest control methods, and research data in the field of plant protection. Additionally, the tripartite organization could serve in the negotiation of import/export certification problems with countries external to the organization.

NAPPO was established on October 13, 1976 under the auspices of the North American Plant Protection Agreement. Furthermore, as an affiliate of the United Nations Food and Agriculture Organization, NAPPO subscribed to the International Plant Protection Agreement, a convention which emphasized the prevention of the spread of plant pests across international borders. The agreement has been further amended by the cooperation agreement of October 20, 1991, which supplemented the 1989 (October) amendments. Canada, Mexico and the U.S.A. were the only signatories to the co-operation agreement. [Refer to Annex II]

The agreement states that the countries "[have] as a common purpose the strengthening of intergovernmental cooperation in plant quarantine and plant protection in North America in order to prevent the introduction and spread of plant pests and noxious weeds, and to foster the preservation of [the] plant resources of North America". NAPPO is a mechanism intended to coordinate plant protection activities conducted by the three countries. Furthermore, NAPPO cooperates with other regional organizations, and the Food and Agriculture Organization (FAO) to achieve the objectives of the International Plant Protection Convention.

Under Article II of the North American Plant Protection Agreement, the signatories mutually agree to prevent the introduction and spread of plant pests on the continent through the following methods:

a) constant review of new records and outbreaks of plant pests;
b) monitoring the movement and spread of established plant pests;
c) reviewing progress in detection, eradication and control methods of plant pests;
d) reviewing plant quarantine measures adopted by the parties, proposing revisions to existing quarantine measures, and establishing new measures which move the parties toward uniform quarantine regulations in areas such as the inspection of commodities at ports of entry, the inspection at foreign sites for preclearance, the inspection for export, etc;
e) examining and studying problems of plant quarantine and closely related fields;
f) keeping parties informed of plant quarantine and protection issues of mutual concern;
g) promoting the training of technical personnel;
h) exchanging research and development information related to plant pests and their control;
i) adopting compatible phytosanitary certificates, taken from the model certificate proposed in the International Plant Protection Convention;
j) encouraging joint participation in programmes related to research and methods development; and,
k) taking such other actions as are mutually agreed upon.

The scope of these objectives has developed and expanded throughout NAPPO's brief history. Presently, NAPPO seeks to develop uniform training procedures for member countries, and to offer other countries the information through recognized plant protection organizations.

In the future, NAPPO intends to provide for contingency funds within its budget to allow the organization to respond promptly in controlling outbreaks of dangerous exotic pests, until the affected country is capable of maintaining the necessary budgeting. It would be at the discretion of the Executive Committee to determine which pests would be addressed on an emergency basis through the utilization of the contingency funds.

Furthermore, NAPPO intends to place inspectors and other officials from the member countries within the operations of their respective NAPPO members in order to enhance the coordination of plant protection and quarantine problems.

NAPPO published the NAPPO Newsletter which is printed 3 times per year.

Structure of NAPPO

NAPPO's constitution and by-laws were formally approved in September 1980 at the annual meeting of the organization. The **Executive Committee** (hereinafter the Committee) was created which consisted of the heads of the Plant Protection services from each of the NAPPO member countries. (Refer to Appendix I). The mandate of the Committee includes managing the general business of NAPPO, adopting rules and regulations consistent with its by-laws, and meeting on an annual basis.

Decisions of the Committee are administered by the **Executive Secretary**. The secretary is appointed by the Committee for a three-year, extendable term. The Executive Secretary is aided by a 3-person Working Party which represents each of the respective members of NAPPO. (Refer to Appendix II) The functions of the Working Party include: co-ordinating Executive Committee-approved activities of the organization; and, acting as a liaison between their respective Committee member and the Executive Secretary.

Currently, the business of NAPPO is conducted through **Permanent Panels**. Alternatively, ad hoc committees established by the Executive Committee or by a permanent panel with the approval of the Executive Committee, have the authority to conduct business on behalf of their organization.

The permanent panels develop information and recommendations within their specific fields. The current panels are outlined below.

* Pest Risk Assessment Panel

The panel is responsible for the development and implementation of a Pest Risk Assessment Process (PRA) through which it is determined which plant pests are probable quarantine pests, the probability of entry into national areas, the probability of establishment and spread within the NAPPO region, and the possible measures that can reduce the probabilities to an "acceptable level of phytosanitary (quarantine) security".

* Regulations Panel

The panel insures that the regulatory requirements of the NAPPO countries provide an "equivalent level of protection" against entry, establishment , and spread of the quarantine pests that are determined by the PRA panel.

* Standards Panel

The panel develops "uniform or equivalent procedures" that can be applied to the international movement of plants and plant products, in order to insure that the "required level of pest freedom is achieved". At present, certification standards are being developed for fruit tree and grapevine nursery stock. It has been proposed that seed and table stock potatoes standards be developed by NAPPO in the future.

* Biocontrol Panel

The panel is responsible for the development and implementation of an entry and release policy with respect to the introduction and use of biological control agents within the NAPPO territory. The policy objective developed through this panel's mandate is to insure that "the concerns of all NAPPO countries are considered prior to any individual country initiating an action which might endanger a neighbour".

The NAPPO annual meeting rotates among the member countries, and publishes an annual report of the activities of the organization.

NAPPO is staffed by 45 volunteers.

NAPPO Policies

It is the responsibility of a NAPPO country to consult with other member countries prior to adopting a new or modified plant pest regulation. Each country "continues to freely develop its own regulations", however drafts of the proposed regulation changes are forwarded to the other countries for comment.

It is the policy of NAPPO that representatives of national and international organizations, and agricultural industry groups concerned with plant health, are invited to attend its meetings.

It is the responsibility of a NAPPO country to notify all other destination countries when it rejects cargo because it is contaminated with a pest or noxious weed. The notification should include information on the organism, the shipment, and steps that should be taken to prevent its introduction into the destination plant system. Additionally, a NAPPO country should immediately notify the other member countries if an exotic plant pest is identified within its borders.

It is the position of NAPPO that pesticides "constitute an important tool for preventing the entry and spread of both plant and animal pests" and that "using these products sparingly and expertly to prevent the entry of dangerous exotic pests can often avoid the need for widespread pesticide application". Furthermore, NAPPO holds that a pesticide registered for regulatory purposes should not be cancelled until "an efficacious, cost-effective equivalent is available".

Activities of NAPPO

NAPPO serves as a mechanism through which member countries exchange information related to plant protection and quarantine. In addition, the organization develops uniform minimum standards and training procedures.

Typical projects initiated and maintained by NAPPO include:

1) the development of mutually acceptable procedures to address pest problems in North America;
2) the sponsorship of international meetings on issues relevant to continental implementation of biological control and quarantine;
3) the development of manuals and uniform training procedures for inspectors;
4) the preparation of a glossary of technical and regulatory terms acceptable to all signatories of the agreement in order to enhance communications; and,
5) the exchange of information regarding effective survey, regulatory, and pest management procedures.

Establishment of NAPPO Standards

In response to 1989 negotiations of the Uruguay Round of the General Agreement on Tariffs and Trade (GATT-UR), NAPPO initiated the development of standards. In October 1989, NAPPO responded to the GATT-UR requirements by re-organizing its internal structure. The Operations, Technical and Information committees were abolished, and replaced by the PRA and Standards Panels. Although the Regulations Panel was maintained, it absorbed some of the functions and responsibilities of the defunct Operations Committee. Furthermore, the formal ad hoc Biocontrol Committee (under the Technical Committee) was promoted to full panel status in recognition of the growing reliance of society upon chemical pesticides for controlling pests and diseases.

At present, the Standards Panel, as described in a previous section, is in the process of developing standards for the production of certified pest-free fruit tree and grapevine nursery stock, with the addition of seed and table stock potatoes to be added to the future NAPPO programme.

Decisions of the Executive Committee are presented to member countries as "recommendation" through which the individual country can achieve the aims and goals of NAPPO. However, the recommendations must be incorporated into national legislation before they hold any legal authority. [Refer to Annex I]

NAPPO and International Trade

The standards developed within NAPPO can be considered in the dispute settlement process of the North American Free Trade Agreement (NAFTA). NAPPO standards will function in a similar fashion to the standards being developed by the Regional Plant Protection Organizations under the FAO to service the requirements of GATT-UR.

Despite the proposed function of NAPPO within NAFTA, the Organization has had no formal role in the negotiation process. However, it could be contended that NAPPO has influenced the position of the Canadian negotiators. NAPPO representatives have met and discussed with the Sanitary and Phytosanitary Working Group the services which NAPPO could provide under NAFTA, including: the establishment of phytosanitary norms within the NAFTA region; and, the provision of technical expertise with respect to disputes relating to phytosanitary issues.

According to Mr. Hopper, NAPPO's Executive Secretary, it is not foreseen that there will be additional significant changes within NAPPO in order that the organization adapt to the requirements of the NAFTA treaty. However, the ultimate relationship between NAPPO's "recommendations" and the "standards" required by NAFTA remains undetermined. It is the position of NAPPO's Executive Secretary that each government "will need to insure the incorporation into their legislation of the phytosanitary decisions taken within NAPPO".

APPENDIX I: Executive Committee Members

Mr. Bruce Hopper, Executive Secretary
c/o Agriculture Canada
Plant Health Division
411 K.W. Neatby Building
960 Carling Avenue
Ottawa, Ontario K1A 0C6
CANADA

Mr. W.T. Bradnock
c/o Agriculture Canada
Director, Plant Protection Division
411 K.W. Neatby Building
960 Carling Avenue
Ottawa, Ontario K1A 0C6
CANADA

Mr. B. Glen Lee
Deputy Administrator
U.S. Department of Agriculture
Animal and Plant Health Inspection Service
Plant Protection and Quarantine
302 - E, Administration Building
P.O. Box 06464
Washington, DC 20250 - 6464
U.S.A.

Ing. Jorge Gutierrez Samperio
Direccion General de Sanidad Vegetal
Secretaria de Agricultura y Recursos Hidraulicos
Guillermo Perez Valenzuela No.127
Coyoacan, 21 MEXICO D.F.
MEXICO

APPENDIX II: Working Group Members

Mr. Ian McDonell
Associate Director, Plant Protection Division
Agriculture Canada
411 K.W. Neatby Building
960 Carling Avenue
Ottawa, Ontario K1A 0C6
CANADA

Mr. Scot Campbell
U.S. Department of Agriculture
Animal and Plant Health Inspection Service
Inspection Service
6th Floor, Federal Building
6505 Belcrest Road
Hyattsville, Maryland 20782
U.S.A.

Ing. Javier Trujillo Arriaga
Secretaria de Agricultura y Recursos Hidraulicos
Guillermo Perez Valenzuela No.127
Coyoacan, 21 MEXICO D.F.
MEXICO

APPENDIX III: Organizations and Meetings in which NAPPO was Represented or Maintains Direct Contact

Ad hoc Potato Workshop, (Mexico, 1991)
American Association of Nurseryman
American Seed Trade Association
Annual National Plant Board Meeting, (Montana, U.S.)
Asia and Pacific Plant Protection Commission

California Avocado Commission
California Department of Food and Agriculture
Canadian Horticultural Council
Canadian Seed Trade Association
Centro Internacional de Mejoramiento de Maiz y Trigo
Comite de Sanidad Fitopecuaria de Sonora
COSAVE, 3rd Annual Meeting of Executive Committee

ECE Potato Standards Meeting (Switzerland, 1992)
EPPO Council Meeting
EPPO Working Party on Phytosanitary Regulations Meeting
EPPO/WMO/NAPPO Agrometeorology - Plant Protection Symposium

Florists Transworld Delivery Association
Flowers Canada

Inter-American Group for Cooperation in Plant Protection
International Horticultural Congress
International Plant Quarantine Congress, 1st (1991)

National Plant Board

Organismo Internacional Regional de Sanidad Agropecuaria, 38th
Annual Technical Meeting

Professional Plant Growers Association

Society of American Florists

United Nations
    Food and Agricultural Organization - Plant Protection Service

United States
    U.S. Department of Agriculture - APHIS, "Pest Risk Analysis Workshop" (Virginia, U.S.)

ANNEX I: National Plant Protection Legislation

The following comments were incorporated from a study completed by FAO in 1985 entitled "Plant Protection Legislation: Legislative Study No. 28". The general thesis of the paper, specifically with respect to national institutional organization, concluded that "for appropriate measures to be adopted and implemented in time, an efficient specialized organization must be in place". However, the study recognized that in such a highly technical sector, "the efficiency of the institutions is constantly under review by both the national and international community" and that the system must never become superior to the primary objective - plant protection.

Functions of National Legislation

It is FAO's position that plant protection legislation is a "means to achieving an adequate system of protection" and should be "directly related to the social, economic and juridical situation of the country". Given these primary considerations, the legislation responsible for the regulation of plant protection must fulfil the following functions:

a) to provide a guarantee that the related problems of plant diseases and pests are addressed at an appropriate level;

b) to establish the administrative and technical infrastructure necessary to address the issues efficiently and economically;

c) to provide and utilize methods of control considered practicable given current technological development;

d) to introduce quality or composition standards with the intent to create a climate of confidence and security in the pesticide marketing, and generally throughout the plant market; and,

e) to enforce plant protection legislation and ensure that individuals contravening the legislation provide restitution.

Legislative Process

According to FAO's study the primary function of the national legislator is to convert plans prepared by the technical staff into Binding legislation. As a result of the technical nature of plant protection legislation, often the power to effectively manage the system is delegated to progressively lower authorities. The general process is summarized below.

> The national legislature introduces a basic plant protection act which establishes the foundations of a plant protection policy, establishes and/or re-organizes necessary services, delegates power to competent authorities, and indicates the general method of imposing penalties.

The delegated authorities introduce general or special regulations.

The regulations are enforced through orders or resolutions.

Generally, the practical result of the process results in the regulations becoming increasingly technical and/or narrow in their field of application. It is FAO's contention that this process "favours the quick and efficient operation of the public administration" which is an important factor in the field of plant protection because "pests and diseases attack suddenly and the response must be quick if it is to be effective".

It should be noted that the Canadian and Mexican legislative texts examined in the FAO Legislative Study were considered to put the above national legislative process into effect.

INTERNATIONAL OFFICE OF EPIZOOTICS

The following memorandum includes information regarding the International Office of Epizootics (OIE), forwarded by Dr. James W. Glosser in August, 1992. Dr. Glosser is employed with the U.S. Animal and Plant Health Inspection Service (APHIS), and currently holds the position of President with the OIE's Regional Commission for the Americas and sits on the OIE Administration Committee.[422]

The American Perspective

Historically, a regulatory system has developed between Canada and the United States in the trade of animals and animal products. In comparison, Canada maintains a permit system for trade with all other countries.[423] As Canada and the United States draw closer as trading partners under NAFTA, it becomes important to understand American assumptions regarding risk assessment. During a telephone discussion with Dr. Glosser, emphasis was placed on the development of an internationally standardized risk assessment regime. It would appear that this regime, developed by the OIE, will determine whether a national standard constitutes a non-tariff barrier based on the "sound science" requirement referred to in the Uruguay Round of negotiations for the GATT (GATT-UR) and the more recent Dallas composite of the NAFTA text.

According to a recent APHIS publication entitled "A Framework for Regionalization", the following assumptions form the basis for the conclusions presented: "(1) the purpose for adopting regionalization schemes is to facilitate trade and (2) zero risk tolerance, with regard to countries' animal health import policies and practices, is unrealistic and incompatible with the current goal of trade facilitation."[424] The APHIS report also places strong emphasis on the development of a standardized risk assessment regime, which would include an evaluation of the relative sophistication of national veterinary infrastructure and surveillance systems.

The APHIS report concludes that the OIE role could assist in dispute arbitration by "providing a panel of experts to evaluate the validity and transparency of risk assessments affecting trade".[425] Once again, it should be noted that the OIE risk assessment proposals will be developed through a process similar to the standard setting process. This process affords little access or input, save for the opportunity for comment by National Veterinary Services and selected OIE experts.

---

[422] The opinions expressed represent a personal evaluation of the information available at the time of writing the memo.

[423] The Canadian regulations detailing animal and animal product trade requirements with the United States are included in the OIE file.

[424] APHIS, "A Framework for Regionalization", p.2 (May 1992). Presented to the OIE Regional Commission for the Americas on March 18 - 20, 1992.

[425] Ibid., p.6.

The OIE and International Trade Standards

Following the GATT-UR negotiations, the OIE was asked to participate in the programme to harmonise national regulations, and has been considered by GATT as the "international scientific body of reference" regarding animal disease regulations.[426] As the reference organization, the OIE will be in the position to provide advice to GATT on animal health aspects of trade, and to nominate experts in the event of trade disputes between countries.

The OIE has stated that because "the Code provides the only internationally recommended standards, it will become increasingly important and used as a reference document for all involved in discussion on animal health in relation to non-trade barriers".[427] The discussion group which formulated the "OIE Strategic Plan for the 1990s" concluded that:

> With the requirement by GATT that animal health regulations do not become a non-tariff barrier, the Code will become compulsory rather than a recommended document.[428]

Although it is recognized that the Code must undergo revision within the next five years in order to ensure that all recommendations are legal and scientifically valid, the neutrality of the recommendations must be examined. As discussed below, it will be noted that OIE co-ordination with the Codex Alimentarius Committee (CAC) could result in an American industrial bias.

Finally, concern is raised over the inadequacy of external contributions to the OIE standard setting and decision-making process. The current limits on access and contribution to this system may be inhibited to a greater extent in the near future.
According to the 11th Conference of the OIE Regional Commission for the Americas, held in Mexico City in March 1992, it was recommended that:

> The Member Countries of the region agree to recognize as valid only that information issued by them through the OIE and other recognized reference agencies.[429]

This recommendation was derived from the perception that research and development activities conducted by external organizations (including educational) could lead to misinformation and confusion at the national and international level. It was concluded that the external research "frequently does not meet scientific criteria" and could not be validated by the national veterinary service. This agreement would further exclude external participation and influence upon the "sound science" used to establish Code standards.

---

[426] OIE, "Strategic Plan for the 1990s: Final Draft", located in Appendix VII (Oct.31, 1990).

[427] Ibid., p.11.

[428] Ibid., Appendix VII.

[429] OIE, "Recommendations of Conferences of OIE Regional Commissions Organised Since 1st June 1991", p.27 (March 18 - 20, 1992).

The OIE's Comparative Advantage

According to OIE literature, the comparative advantage of the organization lies in its ability to function as an international forum for animal disease and health concerns, to provide co-operation and co-ordination through its committees or expert groups in scientific areas, to provide comprehensive information and the potential for the collection of information on other aspects of diseases and their control with the agreement of the 116 membership, and to produce the Code, a document which holds the support its membership.

However, the comparative advantage of the OIE system rests upon the technical co-operation of the National Veterinary Services and the relative development of the national animal disease surveillance and monitoring systems. Currently, many national systems are not as advanced as the Canadian regime. The resulting effect of GATT-UR OIE requirements upon these lesser developed animal health systems will be to bring all nations up to a "level playing field".

However, according to Dr. Bulmer of Agriculture Canada (Plant & Animal Health Directorate) and Dr. Glosser, Canadian and American standards are well above Code guidelines in many areas. Because of the concern to maintain the continent as an animal "disease free" zone, historically the standards for trade in animals and animal products has remained significantly higher than many other trading nations. It was Dr. Glosser's position that the present Canadian and American standards would not constitute non-tariff barriers under GATT-UR if they could be justified under an OIE risk assessment regime. This regime is currently under development. Therefore, the question becomes "What constitutes an 'acceptable level' of risk for the OIE?".

Motivation and Affiliations

Currently, the "acceptable risk" level remains an unknown. Thus, it becomes important to examine OIE motivation and affiliation in order to determine potential influences on a future risk assessment methodology. As discussed within the OIE summary memo, the OIE works to improve international co-ordination of actions against epizootic diseases, and to collect and disseminate information on contagious animal diseases.

With regard to OIE organizational networking, the OIE has developed strong ties with CAC on veterinary drug residues in food, and has proposed as a function in the study of Veterinary Drugs "to disseminate information generated by CAC on veterinary drug residues in animal products in particular".[430] This statement indicates that the OIE is publishing information gathered by an organization which maintains a strong industry-oriented membership, as opposed to generating an independent information source. Additionally, OIE literature indicates that close collaboration should occur between the OIE, CAC and the International Technical Consultation on Veterinary Drug Registration (ITCVDR) in order to avoid the duplication of research efforts. Again, this indicates a willingness to accept, unchallenged, research produced and sponsored by industry.

---

[430] Ibid., note 5, Appendix V.

Furthermore, the OIE discussions leading up to the "OIE Strategic Plan for the 1990s" indicated that in order to avoid non-tariff barriers in international trade, the "regulatory and technical aspects of veterinary drugs need[ed] to be harmonised".[431] To further this objective, the OIE is co-operating with CAC in order to develop "good practice" in the registration of veterinary drugs, and to further recommendations regarding regulatory programmes for controlling veterinary drug residues in food. The strong influence of American corporations within CAC should be addressed by the OIE in their understanding of CAC-produced research and analysis.

Conclusion

The OIE development and adoption of a risk assessment regime will have a dramatic impact on the GATT-UR evaluation process with respect to non-tariff barriers. Under an American methodology "zero risk tolerance... is unrealistic and incompatible with the current goal of trade facilitation". It remains to be seen if this philosophy will become predominant in future OIE risk assessment proposals and to what degree.

Furthermore, it would appear that the OIE is moving towards a more exclusive standard setting process. The OIE Regional Commission for the Americas report suggests that only OIE and "other recognized reference agencies" will participate in the generation of scientific data. This exclusion could inhibit valid input by various external interest groups while the OIE encourages analysis and research from an American business/industry perspective.

---

[431] Ibid., note 5, Appendix V.

INTERNATIONAL PLANT PROTECTION CONVENTION

Food and Agriculture Organization of the United Nations
Rome, ITALY

Brief History

In 1951, the Food and Agriculture Organization (FAO) Conference approved the International Plant Protection Convention (hereinafter the Convention), which was then submitted to member governments for approval. [Refer to Appendix I] The Convention was ratified by 83 governments by August 1983, including Canada (July 10, 1953), Mexico (May 26, 1976), and the United States (August 18, 1972). In 1979, the FAO conference approved a revised text of the Convention which attempted to adapt to new developments in international trade. However, by July 1983, the notice of acceptance of the amendments had been deposited by 32 of the 83 countries which did not meet the qualifications of a two-thirds majority. [Refer to Appendix II]

The duration of the international agreement remains unspecified. However, withdrawal is permitted by parties, effective one year following notification which is subject to the conditions specified in Article 14.

Relationship of FAO to the Convention

Effectively, the Convention has made FAO the focal point for coordination efforts, aimed at establishing a world-wide system of cooperation to prevent the spread of pests and diseases through international commercial trade and other means. Under the terms of the Convention, parties issue and accept the International Phytosanitary Certificate (hereinafter the IPC), and endeavour to ensure compliance of their basic laws and quarantine regulations with the international agreement.

FAO has made significant efforts in the field of plant protection following the mandate of the Convention. In collaboration with the World Health Organization (WHO), the FAO Panel Experts on Pesticide Specifications, Registration Requirements and Application Standards produced the "Model Scheme for the Establishment of National Organizations for the Official Control of Pesticides" (1970) and the "Manual on the Use of FAO Specifications for Plant Protection Products" (1971). In addition, an acceptable daily intake and maximum acceptable level for residues in food has been established in collaboration with WHO.

Other related efforts of FAO include the promotion and coordination of international weed control, research and development in the field of plant pathology, providing advice, training and assistance with respect to crop protection from rodents and birds, and developing various methods of approaching the problem of locust control and infestation. Furthermore, FAO has made efforts to introduce uniform plant quarantine regulations based on sound biological grounds through the Convention.

Under the auspices of the Convention, FAO has encouraged the establishment of Regional Plant

Protection Organizations (RPPOs), including:

- European and Mediterranean Plant Protection Organization (EPPO), established 1950;
- Organismo Internacional Regional de Sanidad Agropecuria (OIRSA), established 1955;
- FAO Plant Protection Committee for the South East Asia and Pacific Region (PPC/SEAP), established 1956;
- Inter-African Phytosanitary Council (IAPSC), established 1956;
- FAO Near East Plant Protection Commission (NEPPC), established 1963;
- Comite Inter-americano de Proteccion Agricola (CIPA), established 1965;
- FAO Caribbean Plant Protection Commission (CPPC), established 1966;
- Junta del Acuerdo de Cartagena (JUNAC), established 1969; and,
- North American Plant Protection Organization (NAPPO), established 1976.

FAO has played a role in the established or creation of the above organizations, with the exception of EEPO and NAPPO. The main functions of the FAO assisted organizations has included: to coordinate plant quarantine operations at the regional level; to assist member countries in resolving plant protection issues; and, to work with FAO towards the long term objective of strengthening plant protection and quarantine services throughout the regions. In June 1983, the first meeting was coordinated by FAO/IICA/WMO/EPPO in San Jose de Costa Rica for the purpose of strengthening the RPPOs, and encouraging closer cooperation and coordination among the agencies and institutions.

Publications Authorized by the Convention

The **Plant Protection Bulletin** is a quarterly publication of FAO which began in 1952, and is used to disseminate information received by the FAO World Reporting Service on Plant Diseases and Pests established under the Convention of 1951. The bulletin provides information on the following: the existence, occurrence and control of diseases and pests of economic significance; ongoing quarantines; and, matters related to plant protection, emphasizing current developments.

Terms and Basic Concepts of the Convention

Under Article II of the Convention, **plant** is defined in broad terms as "living plants and parts thereof, including seeds in so far as the supervision of their importation... may be deemed necessary by contracting [parties]". A similarly broad interpretation can be found within Canadian national plant protection legislation, including the living parts of the plants, bulbs and seeds.

Pest is defined under the revised articles of the Convention as "any form of plant or animal life, or any pathogenic agent, injurious or potentially injurious to plants or plant products". Under Canadian legislation, the term pest has almost the same meaning as "harmful or injurious organism".

It should be noted that **quarantine pest** is defined under the revised Convention to mean "a pest of potential national economic importance to the country endangered thereby and not yet present there, or present but not widely distributed and being actively controlled". Generally, the convention applies to quarantine pests involved in international trade. In contrast, because quarantine measures are traditionally associated with international trade, national quarantine legislation is not generally the focus of plant protection regulations. The exception to this general rule can be found in the Mexican legislation which within the text specifies details of preventative or treatment quarantines at the general, regional and local levels.

Institutional Prescriptions of the Convention

As summarized below, under the Article IV parties to the convention agree to make provision, to the best of their ability and as soon as possible, for the following:

1. (a) an official plant protection organization with the following main functions: the inspection of plants and plant products, disinfestation or disinfection of plants or plant products moving in international trade, and, the issuance of certificates according to the requirements of the Convention model;
   (b) the dissemination of information within the country with respect to plant pests and diseases, and the methods of prevention and control; and,
   (c) research and investigation in the field of plant protection.

Under article VII of the Convention, the contracting parties agree to "cooperate with FAO in the establishment of a world reporting service on plant diseases and pests" and to provide this service with "reports on the occurrence, outbreak and spread of economically important pests and diseases of plants and plant products which may be of immediate or potential danger" and information with respect to any effective means of controlling the pests and diseases of plants.

Finally, as discussed above, according to Article VIII, the Convention encourages the establishment of regional plant protection organizations.

APPENDIX B

SELECTED PLANT CLOSURE AND PRODUCTION RELOCATION: JANUARY 1989-AUGUST 1992
ONTARIO

Company/Ownership	**Community**	**Products**	**Relocation**	**Job losses**	**Date**
Advanced Gibson Canada Ltd. (US)	Windsor	circuit breakers/electrical switch components	US	36	August 1989
Allied-Signal Canada Inc. (US)	Mississauga London	brake plants	Charlotte, NC Frankfurt, KY	670	February 1992
AM International Canada Inc. (US)	Scarborough	coating and blue print paper	US	10	December 1990
Amerock Inc. (US)	Meaford	household/cabinet hardware	Chicago, Ill.	140	September 1990
Andrew Malcolm Furniture	Listowel	furniture	Atlanta, GA	137	June 1990
Arnold Manufacturing	Windsor	restaurant furnishings	Louisville, KY	100	
B.F. Goodrich Tires (US)	Kitchener	tires	Cleveland, Ohio	70	1991
Ball Packaging Products Inc.	Simcoe	paint cans	Philadelphia, PA	210	January 1991
BASF (US and Germany)	Cornwall	chemicals	N.J., Germany	250	January 1990
BASF Coatings and Inks Canada (US and Germany)	Toronto	liquid inks, container coatings	Ohio	60	December 1990
Beckman Industrial Corp. (US)	Toronto	electronic temperature, voltage components	Fullerton, CA	80	April 1990
Bendix Corp. (US)	Collingwood	seatbelts	Alabama Mexico	459	April 1990
BIC Inc. (US)	Downsview	assembly and packaging consumer products	US	45	August 1991
Bilt-Rite Upholstering Co. Ltd.	Toronto	furniture manufacturing	Bauhaus Tupelo Mississippi	450	March 1990

SELECTED PLANT CLOSURE AND PRODUCTION RELOCATION: JANUARY 1989-AUGUST 1992
ONTARIO

Company/Ownership	**Community**	**Products**	**Relocation**	**Job losses**	**Date**
Black and Decker (US)	Trenton	lock assembly	Berlin, Conn.	264	1991
Borden Co. Ltd. (US)	Ingersoll	dairy products	New York	79	November 1991
Burlington Carpets (US)	Brampton	carpet mill	Georgia Virginia	450	May 1990
C & D Charter Power Systems (US)	Perth	industrial batteries, battery chargers, power systems	US plants	120	April 1992
Canadian Coleman (US)	Etobicoke	camping equipment, heating	Kansas, Texas	214	1991
Canron Inc. (US)	Etobicoke	railroad maintenance equip.	Columbia South Carolina	20	1991
Carter Automotive (US)	Bramalea	autoparts	Lafayette Tennessee	230	
Caterpillar of Canada Ltd. (US)	Brampton	tractors	Raleigh North Carolina Peoria, Illinois	430	April 1991
CCL Custom Mfg.	Toronto	consumer/packaging products	US locations	205	1991
Celanese Canada Inc. Hoechst (Germany)	Millhaven	heavy decitex industrial yarn	Queretaro Mexico	160	April 1992
Champion Spark Plug (Texas)	Windsor	premium gold plugs	Burlington	75	June 1992
Clevite Elastomer (US)	St. Thomas	auto parts, shock absorbers	Napoleon, Ohio	50	1991
Cobi Foods Inc. (US)	Whitby	packing plant/canned/froz. vegetables	Picton, Ont.	250	December 1989
Colgate-Palmolive Canada (US)	Toronto	cleaners, toothpaste, detergents	US	250	September 1991
Commander Electrical Equipment Inc.	Scarborough	electrical equipment	Jackson, Miss.	175-190	March 1991

Consumers Glass	Hamilton	glass containers, molds	Washington, Penn.	95	September 1991

SELECTED PLANT CLOSURE AND PRODUCTION RELOCATION: JANUARY 1989-AUGUST 1992
ONTARIO

Company/Ownership	Community	Products	Relocation	Job losses	Date
Cooper Canada	Rexdale	sports equipment	US/Mexico	600	October 1990
Croydon	Cambridge	furniture	Chicago, Ill.	360	1991
D.G. Trim	Petrolia	door panels, autoparts	Kentucky	32	January 1989
Dixon Ticonderoga Inc.	Newmarket	pens, typewriter correction fluid	Versailles Mo. Deer Lake, Penn. Actonvale, Québec	60	June 1990
Dominion Fabrics	Long Sault	weaving plant, cloth for work wear	Malaysia, Tunisia	365	February 1992
Dow Chemical Canada Inc. (US)	Sarnia	chlorinated solvents	?	40	October 1991
Dylex Ltd.	Toronto	garment manufacturing	New Jersey	45	November 1991
Echlin Canada (US)	Rexdale	autoparts	US plants	100	March 1989
Electro Porcelain/Leviton (US)	Waterloo	lamps, fixtures, appliance recepticles	US, Mexico	200	?
Emblematic Jewelry Product	Rodney	lapel pins	Mexico	40	?
Fedders Inc. (US)	Orangeville	air conditioners	New Jersey	140	November 1990
Ford Motor Co. (US)	Windsor	engine plant	Mexico	900	?
Ford Motor Co. (US)	St. Thomas	auto parts	Mexico	140	1991
Ford Export/Office (US)	Windsor	auto	US	45	November 1989
Freedland Industries	Kingsville	autoparts	Dearborn, MI	45	March 1989
Freudenber Nonwovens	Cornwall	textiles	New Jersey Massachusetts	57	July 1991

Friskies Pet Products (US)	Mississauga	pet food	US	121	September 1990

SELECTED PLANT CLOSURE AND PRODUCTION RELOCATION: JANUARY 1989-AUGUST 1992

ONTARIO

Company/Ownership	**Community**	**Products**	**Relocation**	**Job losses**	**Date**
Galtaco	Paris, Orillia Brantford	auto parts	Grand Rapids, MI Dover/Greenfield, Tenn.	400	?
General Tire Cda Ltd. (US/Germany)	Barrie	radial and tire trucks, replacements	Mount Vernon, Ill. Mayfield, KY Charlotte, NC	950	July 1991
General Motors (US)	Scarborough	van plant	Flint, Michigan	2,700	May 1993
General Motors of Canada Ltd. (US)	Windsor	auto trim	Findlay, Ohio	255	June 1990
Gerber (Canada) Inc.	Niagara	baby food manufacturing	Fremont, Michigan	?	April 1990
Gilles Mill (US)	Braeside	pine lumber	Chicago	103	May 1992
Glidden Paints Canada (UK)	Bramalea	paint plant	Boucherville, Qué. US plants	90	April 1990
Greb Inc.	Kitchener	workboot and casual footwear factory	Quebec, US, Asia	230	November 1990
Grolier (US)	Toronto	book distribution	Danbury, Conn.	171	August 1991
Harding Carpets	Brantford	carpet manufacturing	Tenessee	470	October 1990
Hartz Canada (US)	St. Thomas	pet foods	US locations	26	1991
Harvard Industries (US)	Whitby	car mirrors	Tennessee	150	July 1990
Industrial Part Coaters	Windsor	metal plating plant	Buffalo, NT	50	April 1991
Inglis (US)	Toronto	major appliances	Clyde, Ohio	650	1991
Inglis Ltd. (US)	Mississauga	refrigerator manufacturing	Evansville, Indiana	350	January 1992

International Playing Card Co.	Windsor	playing cards	Cincinatti, Ohio	35	September 1989
ITW Shakeproof (US)	Mississauga	fasteners manufacturing	Tennessee	45	July 1989

SELECTED PLANT CLOSURE AND PRODUCTION RELOCATION: JANUARY 1989-AUGUST 1992
ONTARIO

Company/Ownership	Community	Products	Relocation	Job losses	Date
J.H. Warsh Ltd. (US)	Toronto	garment, designer sportswear	?	30	December 1990
Johnson Controls (US)	Port Perry	seating plant	US	280	February 1992
Johnson Controls Ltd. (US)	St. Thomas	automotive batteries	US	170	February 1992
Kandresco (US)	Cambridge	trucks	Peoria, Ill.	200	?
Kaufman Furniture	Collingwood	furniture	North Carolina	100	?
Kellogg Canada Inc. (US)	Etobicoke	foods	US locations	361	March 1992
Kelsey-Hayes (US)	Windsor	steel wheels	Japan, US	424	June 1990
Komdresco Canada Inc. (US)	Kitchener	mining and construction trucks	Peoria, Ill.	200	August 1991
Lawson Mardon Packaging (Ireland)	Toronto	soap boxes	Radisson, NY	125-140	March 1992
Melita Canada	Rexdale	filtering production	US	50	April 1991
Mercury Marine	Toronto	outboard motors manufacturing	US	40	April 1990
Midas	Scarborough	auto parts, mufflers	Hartford, Chicago	140	1991
Modine Canada	Rexdale	auto parts, radiator manufacturing	?	40	July 1989
Monaco Group	Toronto	garment manufacturing	?	85	December 1991
Motor Wheel Corp Canada Ltd. (US)	Chatham	wheels and brakes	Lansing, Michigan Medota, Ill.	582	January 1991
Murata Eric North America (Japan)	Trenton	electronic systems, radar components aviation communications instruments	Georgia State College Pa.	463	April 1992

Nestle/Dr. Ballards (US)	?	pet food manufacturing	?	80	March 1990
Newcor Inc. (US)	Windsor	auto parts, custom welding equip.	Michigan	26	1991

SELECTED PLANT CLOSURE AND PRODUCTION RELOCATION: JANUARY 1989-AUGUST 1992
ONTARIO

Company/Ownership	Community	Products	Relocation	Job losses	Date
Olan Mills (US)	Kingston	photo finishing	US plants	95	August 1990
Outboard Marine	Peterborough	electric motors	US, Mexico Belgium, Hong Kong	290	?
Peerless Carpet Corp.	Toronto	carpet mill	Acton Vale, Qué. Georgia	155	May 1990
Phil Carry	North York	garment manufacturing	?	300	November 1987
Philips Electronics (Holland)	Scarborough	computer monitors, electronic mfg.	Europe, Italy	253	June 1992
Picker International (US)	Bramalea	X-ray equipment	Cleveland, Ohio	160	1991
Playtex Ltd. (US)	Renfrew	women's underwear	Philippeans Caribbean, Mexico	160	June 1990
PPG Canada Inc.	Etobicoke	paint manufacturing	US	119	February 1989
Random House (US)	Mississauga	?	Westminster Md.	73	December 1991
Redirack Ltd. (US)	Toronto	steel racks for industrial storage	Ilinois	136	October 1990
Research Development Industries	Etobicoke Mississauga	industrial solvents and cleaners	France	200	January 1991
Robertshaw Controls Canada Inc. (US)	Toronto	temperature and industrial control products	Texas	150	October 1990
Rockwell Plastic Products (US)	Cambridge	plastic products	US	74	November 1990
Rubberset Co. Canada (US)	Gravenhurst	paint brushes and rollers	Ohio, Maryland	100	April 1992

Schlegel (US)	Burlington	auto parts, weather stripping	Tennessee Oklahoma	104	1991
Scholl Plough, Mabelline	Burlington	cosmetics	Little Rock, Ark.	78	1991

SELECTED PLANT CLOSURE AND PRODUCTION RELOCATION: JANUARY 1989-AUGUST 1992
ONTARIO

Company/Ownership	**Community**	**Products**	**Relocation**	**Job losses**	**Date**
Schwitzers Manufacturing (US)	Stratford	construction vehicle parts	Ackville, NC	80	1991
Sheller-Globe of Canada Ltd. (US)	Kingsville	steering wheel covers	Mexico	419	April 1990
Sklar-Peppler	Hanover	furniture makers	Mississippi	42	?
Solarny, Sunbeam Corp. Canada Ltd. (US)	Brantford	gas barbecues, electric lawn mowers	US, Mexico Etobicoke	125	June 1990
Square D Canada (US)	Stratford	electrical panels; industrial safety switches	Lexington, KY	140	December 1990
Standard Products (US)	Etobicoke	auto trim manufacturing	South Carolina	121	April 1992
Star Suspension Industries (US)	Mississauga	fastener manufacturing	US parent plant	32	?
Steel Fabricating and Welding Co.	Dundas	steel products	Abingdon Virginia	23	March 1992
Sterling Drug (US)	Aurora	pharmaceutical	US, Puerto Rico	180	1991
Stevens Controls	Pembroke	thermostats	Norwalk, Ohio	49	?
Sunar-Hauseman (US)	Waterloo	office furniture	Holland, Michigan	280	1991
Suncor (US)	Toronto	blending and packaging oil and lubricants plants	US plants	86	September 1990
Superior Performance Products (US)	Newmarket	cast aluminium road wheels	Arkansas, Kansas	150	December 1990
T.A.G. Inc.	Cambridge London Woodstock	clothing	US	1250	?

Therm-O-disc Inc. (US)	St. Thomas	thermostat manufacturing	US, Mexico Ireland, Netherlands	300	October 1990
Thomson Transportation Company	London	trucking	Detroit, Michigan	250	?

SELECTED PLANT CLOSURE AND PRODUCTION RELOCATION: JANUARY 1989-AUGUST 1992
ONTARIO

Company/Ownership	**Community**	**Products**	**Relocation**	**Job losses**	**Date**
Tridon Ltd.	Burlington Oakville	wiper blades, hose clamps, electronic signal flashers	Smyrna Tennessee	632	September 1990
TRW Canada Inc.	Penetang	seat assembly	?	400	February 1992
TRW	Penetang	seat belts	Mexico	194	October 1992
Uniroyal Goodrich (France)	Kitchener	tires	US and Mexican plants	1000	January 1992
United Technologies Automotive (US)	St. Thomas	wire harnesses	US, Mexico	319	April 1991
Vogue Bra Canada	Cambridge	women's underwear	Mexico	50	August 1992
Warnaco Activewear Canada Ltd.; Speedo (US)	Carleton Place	swimwear	Kentucky	70	April 1990
Wayne Canada (US)	Windsor	bus manufacturer	Richmond Indiana	145	March 1990
WCI Canada Inc. (US; Sweden)	Cambridge	washers and dryers; refrigerator mfg.	Webster City, Iowa St. Cloud, Minn.	325	August 1990
Wilton Grove Bendix	London	auto parts	Mexican maquila Kentucky, N. Carolina	46	
Woodbridge Foam (US)	Tilbury	auto parts	Romulus, Mich.	140	?

SOURCE: Compiled for the Canadian Centre for Policy Alternatives by Theresa Healy

APPENDIX C

STATUS OF U.S. MANUFACTURING AND RESOURCE INDUSTRIES

Notes on U.S. manufacturing and resource industries:
a) experiencing import competitive pressure or decreased domestic demand
b) at risk of continued decline and/or
c) involved in trade tensions with major trading partners.

MANUFACTURING INDUSTRIES

Aerospace (low)

U.S. aerospace industry is troubled, but remains the world leader.
• aerospace the top U.S. export industry, producing a record $43 billion of exports in 1991.
• cancellation or scaling back of defence contracts. The Pentagon's 1992 procurement budget is $65 b., about half its peak in 1985. (Business Week, Jan. 13, 1992: 64)
• major layoffs announced by McDonell-Douglas, Pratt Whitney.
• trade tensions with the EC over subsidies to Airbus.
• U.S. and the EC have negotiated an agreement which limits research and development subsidies in the aircraft industry, but the U.S. is delaying signing the final agreement over a dispute about EC export financing support for Airbus. (Inside U.S. Trade June 19, 1992)
• proposed sale by McDonell Douglas of 40% of part of its commercial aircraft business to Taiwan could mean an "Asian Airbus."
• the Canadian aerospace industry is a U.S.-controlled branch plant industry, insulating it from possible U.S. trade actions.
• Canadian aerospace manufacturers could be expose to U.S. trade pressure if trade relations between the U.S. and the EC continue to deteriorate.

Apparel (medium)

As of Oct. 1991, the U.S. has bilateral agreements on textiles and clothing with 40 trading partners and two U.S. territories. Textiles and clothing covered by restraint agreements account for about 60% of total U.S. imports of these products. The EC and Canada are two of the major unrestrained sources of U.S. imports in this sector.
Canada and the U.S. differ on the definition of woolen textiles eligible for duty preferences under the Canada-U.S. FTA.
The Canadian apparel industry is threatening to pull out of the apparel portion of a NAFTA deal because the proposed rules of origin unfairly discriminate against Canadian apparel producers. The Canadian apparel industry relies on offshore fabrics that may not qualify as North American content under the proposed NAFTA rules of origin. U.S. retail and apparel companies are also strongly opposed to tight rules of origin in the proposed textile deal. (Inside U.S. Trade, June 26, 1992)
The Canadian apparel industry claims that the proposed NAFTA rules of origin would cost Canada 50,000 jobs, nearly half the sector's workforce. (Inside U.S. Trade, Apr. 10, 1992)

Chemicals (low)

The U.S. is the world's largest chemical producer, $286 billion in 1990.
- after aerospace, next largest U.S. manufacturing exporter ($39 billion in 1990)
- main U.S. competitors are European chemical giants BASF (Germany) and ICI (Britain). Both have invested heavily in U.S. subsidiaries.
- Canadian chemical industry highly integrated with the U.S.
- periodic U.S. trade actions against certain Canadian basic chemicals.

(potassium chloride, chlorine, potassium hydroxide, potash, sulphur, nepheline syenite)

Computers (low)

Rising imports have cut the U.S. trade surplus from $7 billion in the early 1980s to under $1 billion in 1990. (Fortune March 9, 1992, 33)
- The U.S. has fallen behind Japan in critical parts of the industry: microelectronic components, chip-making equipment, optoelectronics, printers, displays and floppy disk drives. (Fortune March 9, 1992, 33)
- U.S. remains world leader in software.
- Canadian manufacturers could be sideswiped if trade tensions continue to escalate between the U.S. and Japan.

Electronics and electrical equipment (low)

U.S. trade deficit with Japan in consumer electronics was more than $10 billion in 1990.
The American share of sales among the world's top 12 electronics companies fell from 44% in 1980 to 11% by 1990.
The U.S. semiconductor industry is charging that Japan has not complied with a 1991 bilateral agreement pledging to increase foreign share of Japan's domestic chip market to 20% by the end of 1992. (Inside U.S. Trade May 29, 1992).
The U.S. electrical machinery business is also experiencing heavy competition from Japan and Europe.
Canadian electrical industry is over 50% U.S.-owned, insulating it from rising trade tensions between the U.S. and Japan.

Food and beverage (high)

Canada and the U.S. are currently involved in a trade battle over domestic restrictions on the sale of beer and wine.
While expressing some reservations regarding interpretation of the U.S. constitution, on June 19 the U.S. adopted a GATT panel ruling against discriminatory beer and wine marketing practices in 40 U.S. states and Puerto Rico (Inside U.S. Trade, June 26, 1992).
On April 25, the two countries reached an agreement in principle, on how Canada would implement another GATT panel ruling against discriminatory Canadian provincial listing and pricing practices. The deal would open up the Canadian market to U.S. beer by Sept. 30, 1993.
The U.S. had threatened Section 301 trade action if the allegedly discriminatory Canadian practices were not ended.
The U.S. objects to a new Ontario tax on non-refillable alcoholic beverage containers, threatening the earlier agreement. Most U.S. beer exports to Canada are in cans.
Canadian beer exports to the U.S. market are $200 million annually.

Industrial and farm equipment (low)

U.S. competitive position has been eroded by Japanese newcomers (Komatsu and Mitsubishi Heavy Industries).

Machine tool industry had one billion dollar trade deficit in 1991.

Voluntary Restraint Agreements covering machine tools from Taiwan and Japan expired on Dec. 31, 1991.

The U.S. machine tool industry lobbied for extension of import quotas.

In April, 1992 the U.S. and Japan agreed to a two-year extension of the machine tools VRA.

The U.S. and Taiwan have agreed to phase out controls by the end of 1993. (Inside U.S. Trade, June 26, 1992)

Caterpillar, which gets over half its revenues from exports, is a vocal supporter of free trade and opposed extension of VRAs.

Major Canadian farm equipment manufacturer (Massey, Varity Corp.) now U.S.-controlled and based.

Motor vehicles (medium)

- U.S. industry operated at 65% of capacity in 1991.
- Big Three's combined U.S. market share dropped to 70%.
- Big Three had record operating loss of $6.6 billion in 1991. (Fortune Jan. 13, 1992).
- Asian carmakers accounted for 31.8% of U.S. car market, 17.4% of light truck market in 1991. (Fortune Feb. 13, 1992)
- the current Japanese "voluntary restraint" level is 1.65 million vehicles per year (Inside U.S. Trade, June 26, 1992)
- transplants accounted for a record 25% of U.S.passenger-car production and 18% of domestic car and light truck production.
- U.S. is pressing Japan to reduce auto trade surplus with the U.S. The Japanese have pledged to import more U.S. autos and parts and to purchase more U.S. components for Japan's North American transplants.
- "On Nov. 26, 1991 GM, Ford and Chrysler joined with 31 auto parts suppliers to form a lobbying consortium to confront Washington on a broad range of trade and regulatory issues." (Business Week, Jan. 13, 1992: 63)
- On June 24 the U.S. ITC ruled that the U.S. automotive industry had not been injured by imports of Japanese minivans, terminating an antidumping case. Earlier, on May 19, 1992 the Commerce Dept. found an average dumping margin on Mazda minivans of 12.7% and on Toyota's of 6.75%. The negative ruling may strengthen the case of U.S. auto companies for new legislative protection (Inside U.S. Trade June 26, 1992)
- A "blue-ribbon" industry panel set up under the Canada-U.S. FTA warned in its report that industry-wide dumping by Japanese automotive companies threatens the North American industry. The U.S.-Canada Automotive Select Panel report called for timetables to eliminate alleged barriers to the sale of North American cars in the Japanese market and for increasing purchases by Japanese companies of parts from North American suppliers. (Inside U.S. Trade, June 26, 1992)
- Japanese-Canadian transplants (Honda and CAMI) have been harassed by U.S. rules of origin audits under the Canada-U.S. FTA The audits are part of a U.S. effort to encourage Japanese investment in the U.S. and to increase U.S. content of Japanese transplants.
- A Japanese industry group has signalled it may press the Japanese government to challenge proposed NAFTA rules of origin for automobiles, semiconductors and television sets as inconsistent with the GATT. (Inside U.S. Trade, June 26, 1992)

Shipbuilding (medium)

- Transportation Secretary Andrew Card stated recently that the U.S. will "pursue disciplinary action" including a possible challenge under the GATT subsidies code and an "expedited case" under Section 301 against any country that does not enter into negotiations with the U.S. to cut shipbuilding subsidies (Inside U.S. Trade, June 19, 1992).
- OECD negotiations aimed at curbing government support to the shipbuilding industry failed earlier this year amidst recriminations between the EC and the U.S.
- the U.S. has now entered bilateral negotiations with South Korea and Japan.
- A bill barring subsidized ships form U.S. ports passed the House of Representatives in May. The bill faces opposition in the Senate and the Bush Administration has pledged to veto it. (Inside U.S. Trade, June 19, 1992)
- U.S. pressure is directed primarily at the Japan, South Korea and the EC.-U.S. trade measures could potentially affect Canadian shipyards.

Steel (high)

Auto and construction slumps are hurting steel, these two industries take more than half steel output.

- shipments fell 9% to 77 million tons in 1991.
- prices fell to 1982 levels
- the integrated steel producers lost $1.5 billion on sales of $37 billion.
- import share is 18.3% of U.S. market, below the 20.3% cap set by the VRAs - VRAs with 17 U.S. trading partners expired in March 1992.
- Multilateral steel talks between the U.S. and its major trading partners broke down earlier this year over the issue of allowable subsidies and limitations on U.S. trade laws.
- In 1990 an FTA dispute settlement panel upheld punitive duties of 94.57% against Canadian steel rails.
- U.S. steel producers have filed a large number of antidumping cases against flat-rolled carbon steel from a number of U.S. competitors, including four petitions against Canada. Other producers of steel goods including oil country tubular goods and stainless steel are also expected to file trade cases. (Inside U.S. Trade July 3, 1992)
- Canadian Trade Minister, Michael Wilson, warned that U.S. steelmakers may face retaliatory action under Canadian trade laws. (Inside U.S. Trade June 19, 1992)

Telecommunications equipment (low)

In 1989 the U.S. posted a $2.5 billion deficit. Posted a narrow surplus in 1991 as a result of strong export growth in switches, transmission gear and satellites.

By contrast, the U.S. remains a big importer of telecommunications consumer products such as phones, and fax machines.

Major Canadian manufacturer, Northern Telecom, has shifted operations heavily into the U.S. transforming itself into a U.S.-based company for procurement purposes and defusing past U.S. trade pressure.

RESOURCE INDUSTRIES

Beef (high)
On June 19 the U.S. beef industry requested that the U.S. International Trade Commission examine the case for punitive tariffs on Canadian beef imports.

Natural gas (medium)
U.S. state regulators are taking advantage of a natural gas bubble to break long-term contracts with Canadian suppliers.

Dairy (high)
The removal of tariffs on processed foods under the FTA has put pressure on Canadian food processors who must pay supply-managed prices for inputs such as industrial milk.
To compensate for this competitive disadvantage Canada attempted to place yoghurt and ice cream on its import control list.
Hagen-Dasz initiated and won a ruling that this measure violated Canada's GATT obligations.
Canada has accepted GATT panel report, pending outcome of Uruguay Round.

Durum wheat (high)
The U.S. has requested a dispute panel under Chapter 18 of the Canada-U.S. FTA over how to calculate the minimum price below which (under article 701.3 of the FTA) durum wheat cannot be sold into the other country's market.
The U.S. maintains that Canada is selling wheat in the U.S. below the fair market price. It alleges that the government portion of the cost of transporting wheat under the Western Grain Transportation Act be included in the calculation of the minimum price. (Inside U.S. Trade May 15, 1992).
Canada maintains that article 701.3 looks only at the acquisition price paid by the Canadian Wheat Board to producers.

Lobster fishery (medium)
The Mitchell bill, passed in the U.S. Congress in Nov. 1989, prohibited the sale of any live lobster under the U.S. carapace (minimum) size of 3 1/4 inches.
The Canadian industry, which maintains a smaller carapace size, asked for a Ch. 18 FTA panel.
The panel upheld the U.S. legislation as a legitimate conservation measure.
On July 17, 1990 a bilateral deal was struck under which Canada would increase this carapace size to 3 1/4 in. by 1991 and the U.S. would begin to remove state laws restricting the import of Canadian processed lobsters and would delay further increases to the minimum size for three years.
In Nov. 1990 Fisheries minister, Bernard Valcourt, rejected the proposed agreement.
Canada requested a second Ch. 18 panel on U.S. state minimum size requirements.

Lumber and wood products (high)
The principal issue in the long-standing softwood lumber dispute has been whether Canadian provincial pricing of rights to cut standing timber ("stumpage") fees are so low that they provide a subsidy to the Canadian forest industry. However, in the most recent softwood case the effect of Canadian restrictions on raw log exports was raised by the U.S. for the first time.
Softwood I: In a 1983 case the U.S. Department of Commerce (DOC) ruled that stumpage did not constitute a countervailable subsidy. The Department found that stumpage was not provided to a specific industry or group of industries.

Softwood II : In 1986 a second countervailing duty case was initiated against Canadian softwood lumber. Although there had been no substantive change in U.S. law, in its 1986 preliminary ruling the Department reversed Softwood I, finding a countervailable subsidy. It recommended a countervailing duty of 15%.

The 1986 Memorandum of Understanding: Before the Softwood II case was concluded the Canadian government negotiated an "out-of-court" settlement. Under the Dec. 30, 1986 Memorandum of Understanding (MOU), the U.S. industry agreed to withdraw its countervailing duty petition and the case was terminated. In return, Canada agreed to collect a 15 per cent charge on softwood lumber exports to the U.S..

The MOU also provided for "replacement measures," permitting provinces to change their stumpage systems to impose greater costs on industry and to collect higher provincial revenues. B.C. (Dec. 16, 1987) and Quebec (Apr. 7, 198 and Oct. 31, 1990) submitted their forest provincial management plans for U.S. approval under the MOU standard. The export charge on B.C. and Quebec softwood lumber was reduced to 0% and 3%, respectively. However, the replacement measures, where taken up, resulted in far-reaching U.S. government and private industry influence over Canadian forest management policies. Canada terminated the MOU effective Oct. 4, 1991.

Softwood III: On the day the MOU was terminated, the DOC self-initiated a CVD case against Canadian softwood lumber. In its preliminary ruling of Mar. 12, 1992 the DOC found that Canadian softwood lumber exports were subsidised and recommended a punitive duty of 14.48 per cent. In its final affirmative ruling the DOC recommended a reduced duty of 6.51 per cent. On June 25, 1992 the U.S. International Trade Commission affirmed its preliminary ruling of injury, concluding the case. The Canadian government has indicated that it will appeal the case under the dispute resolution provisions of the Canada-U.S. FTA.

Profits for the 16 largest U.S. forest companies dropped 52% in 1991.

Conservation rulings in the Pacific Northwest led to higher domestic prices and a threatened shortage of domestic logs and lumber.

Higher prices due to conservation rulings and the tax on Canadian imports are a bonanza for big U.S. companies such as Weyerhaeuser and Louisiana Pacific that have their own timber holdings. (Business Week, Jan. 13, 1992: 113)

Metals and minerals (high)

U.S. non-ferrous metals industries initiated an investigation by the USTR of Canadian subsidy practices under the Baucus-Danforth amendment to U.S. FTA implementing legislation.

In early July, 1992 the U.S. Commerce Dept. recommended that a 52.94% duty be imposed on Canadian magnesium exports to the U.S. The Dept. found a dumping margin of 31.33% and a countervailable subsidy of 21.61%.

Paper and allied products (medium)

- Surplus pulp and paper capacity is depressing prices.
- U.S. pulp and paper profits declined 37% in 1991.
- Plant operating rates are at 91% below the 93% that marks a strong business cycle.
- newsprint prices depressed, $490 per metric ton, down 42% from 1989.
- Canadian share of U.S. newsprint market has fallen form 2/3 to half over the last 15 years (Fortune, March 9, 1992)
- Canadian industry claims to be disadvantaged by U.S. recycled paper content requirements. Canadian producers rely on forest inputs and lack ready access to the "urban forest."
- Rulings that Canadian stumpage rights and log export restrictions confer a countervailable subsidy on Canadian softwood lumber producers could provide the legal basis for a challenge of

the Canadian pulp and paper exports to the U.S. if the industry chooses to initiate a case.

Pork (high)

In 1989 the U.S. pork industry won a countervailing duty case against Canadian pork producers. The Dept. of Commerce recommended a deposit rate of 8 cents per kg.

In 1990 a Ch. 19 dispute panel found that the finding of a threat of imminent material injury was not supported by substantial evidence and remanded the case to the ITC.

After a second remand the ITC reversed its finding of "threat injury" on Feb. 12, 1991.

The U.S. pork industry was able to command sufficient political support in the U.S. Congress to force an "extraordinary challenge" of the panel decision under the terms of the FTA.

Although the challenge committee upheld the panel's remand, the extraordinary challenge could be taken as a warning to Canadian pork producers that increased exports into the U.S. will be met by further trade actions.

Potatoes (high)

Since the early 1980s New England potato producers have agitated for restrictions on imports of Canadian seed and tablestock potatoes.

Sen. Mitchell (D-ME), now Senate Majority Leader, proposed a clause subsequently struck from the U.S. FTA implementing legislation to investigate allegedly subsidized Canadian potato exports.

For two years P.E.I. and N.B. seed potato exports to the U.S. have been banned because of the presence of PVYn virus that is a potential threat to tobacco crops.

Poultry (high)

The U.S. fast food industry is pressuring the USTR to press Canada to allow increased imports of processed chicken. Kentucky Fried Chicken claims that import restrictions under Canada's supply management system cost it $13 million annually. The fastfood and U.S. broiler industry has stated it will consider filing a Sec. 301 case if the USTR fails to resolve the issue. (Inside U.S. Trade June 19, 1992).

Sources: Business Week, "Industrial Outlook," Jan. 13, 1992.; Fortune, "The Economy: 18 month forecast", Jan. 13, 1992. Fortune "How American Industry Stacks Up," March 9, 1992; Inside U.S. Trade, various issues.

COUNTERVAILING DUTY CASES AGAINST CANADIAN PRODUCTS
(January 1, 1980 to April 22, 1992)

Hard smoked herring fillets
Subway cars
Softwood products
Radial steel belted tires
Glass beads
Certain fish
Optic liquid level sensing systems
Live swine and pork products
Red raspberries
Oil country tubular goods
Certain fresh Atlantic groundfish
Certain softwood lumber products
Certain fresh cut flowers
Complete probe thermostats
New steel rails
Fresh chilled and frozen pork
Limousines
Plastic tubing corrugators
Pure and alloy magnesium
Certain softwood lumber products
Portable seismographs

Source: U.S. Department of Commerce, Import Administration

U.S. ANTIDUMPING CASES AGAINST CANADIAN PRODUCTS
(January 1, 1980 to April 22, 1992)

Red cedar shakes and shingles
Hardwood bleached kraft pulp
Steel reinforcing bars
Carbon steel bars and structural shapes
Steel jacks
Lightweight steel sheet piling
Chlorine
Frozen french fries
Muriate of potash
Round white potatoes
Moist towelettes
Choline chloride
Pig iron
Asphalt roofing shingles
Ice cream sandwich wafers
Instant potato granules
Elemental sulphur
Racing plates (aluminum horseshoes)

Self-propelled bituminous paving machines and replacement parts
Methyl alcohol
Sugar and syrup
Red raspberries
Codfish
Egg filler flats
Rock salt
Certain heavy-walled rectangular tubing
Iron construction castings
Oil country tubular goods
Brass sheet and strip
Certain fresh cut flowers
Colour picture tubes
Potassium chloride
Certain welded carbon steel API line pipe
Fabricated structural steel
Complete probe thermostats
New steel rails
Generic cephalexin capsules
Limousines
Ball bearings
Steel wire rope
Certain nepheline syenite
Pure and alloy magnesium
Potassium hydroxide
Medium voltage distribution underground cable

Source: U.S. Department of Commerce, Import Administration

APPENDIX D

General Agreement on Tariffs and Trade

Article XX

General Exceptions

Subject to the requirement that such measures are not applied in a manner which would constitute a means of arbitrary or unjustifiable discrimination between countries where the same conditions prevail, or a disguised restriction on international trade, nothing in this Agreement shall be construed to prevent the adoption or enforcement by any contracting party of measures:

(a) necessary to protect public morals;

(b) necessary to protect human, animal or plant life or health;

(c) relating to the importation or exportation of gold or silver;

(d) necessary to secure compliance with laws or regulations which are not inconsistent with the provisions of this Agreement, including those relating to customs enforcement, the enforcement of monopolies operated under paragraph 4 of Article II and Article XVII, the protection of patents, trade marks and copyrights, and the prevention of deceptive practices;

(e) relating to the products of prison labour;

(f) imposed for the protection of national treasures of artistic, historic or archaeological value;

(g) relating to the conservation of exhaustible natural resources if such measures are made effective in conjunction with restrictions on domestic production or consumption;

(h) undertaken in pursuance of obligations under any intergovernmental commodity agreement which conforms to criteria submitted to the CONTRACTING PARTIES and not disapproved by them or which is itself so submitted and not so disapproved;*

(i) involving restrictions on exports of domestic materials necessary to ensure essential quantities of such materials to a domestic processing industry during periods when the domestic price of such materials is held below the world price as part of a governmental stabilization plan; Provided that such restrictions shall not operate to increase the exports of or the protection afforded to such domestic industry, and shall not depart from the provisions of this Agreement relating to non-discrimination;

(j) essential to the acquisition or distribution of products in general or local short supply; Provided that any such measures shall be consistent with the principle that all contracting parties are entitled to an equitable share of the international supply of such products, and that any such measures, which are inconsistent with the other provisions of this Agreement shall be discontinued as soon as the conditions giving rise to them have ceased to exist. The CONTRACTING PARTIES shall review the need for this sub-paragraph not later than 30 June 1960.

APPENDIX E

North American Free Trade Agreement
Article 712: Basic Rights and Obligations

Right to Take Sanitary and Phytosanitary Measures

1. Each Party may, in accordance with this Section, adopt, maintain or apply any sanitary or phytosanitary measure necessary for the protection of human, animal or plant life or health in its territory, including a measure more stringent than an international standard, guideline or recommendation.

Right to Establish Level of Protection

2. Notwithstanding any other provision of this Section, each Party may, in protecting human, animal or plant life or health, establish its appropriate levels of protection in accordance with Article 715.

Scientific Principles

3. Each Party shall ensure that any sanitary or phytosanitary measure that it adopts, maintains or applies is:

(a) based on scientific principles, taking into account relevant factors including, where appropriate, different geographic conditions;

(b) not maintained where there is no longer a scientific basis for it; and

(c) based on a risk assessment, as appropriate to the circumstances.

Non-Discriminatory Treatment

4. Each Party shall ensure that a sanitary or phytosanitary measure that it adopts, maintains or applies does not arbitrarily or unjustifiably discriminate between its goods and like goods of another Party, or between goods of another Party and like goods of any other country, where identical or similar conditions prevail.

Unnecessary Obstacles

5. Each Party shall ensure that any sanitary or phytosanitary measure that it adopts, maintains or applies is applied only to the extent necessary to achieve its appropriate level of protection, taking into account technical and economic feasibility.

Disguised Restrictions

6. No Party may adopt, maintain or apply any sanitary or phytosanitary measure with a view to, or with the effect of, creating a disguised restriction on trade between the Parties.